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一 注意事项

警 告

- 本手册是本产品的必要组成部分，请仔细阅读。
- 妥善保存本手册，以备检修时使用。
- 本机只用于所明确设计的用途，切勿移作它用。
- 对由于使用不当或移作它用而引起的损害，厂家概不负责。

对本设备进行安装调试应该注意以下事项：

- 安装调试前应详细阅读本手册及说明书，未经厂家允许或未按说明书要求，任意改动机器零部件和使用范围都可能对机器引起直接或间接的损坏。
- 安装调试人员必须有一定的电气知识。
- 操作者必须由受过专门的培训并且合格。
- 应把轮胎拆装机安装固定在平稳的地面上。
- 在轮胎拆装机的背面和墙壁之间，应留有 0.5M 的距离，以保证良好的通风散热。请注意在轮胎拆装机的左右两侧留有足够的空间，以使操作不受限制。
- 勿使轮胎拆装机处于极端温度和湿度环境中。避免安置在暖气设备、水龙头、空气加湿器或火炉旁。
- 勿把轮胎拆装机安置在阳光能直接照射地方。在不可避免的情况下，应使用窗帘、挡板或防护罩遮蔽轮胎拆装机。
- 安装前应仔细检查设备清单，如有疑问请立即与经销商或元征公司联系。

二 整机结构

2.1 整机结构

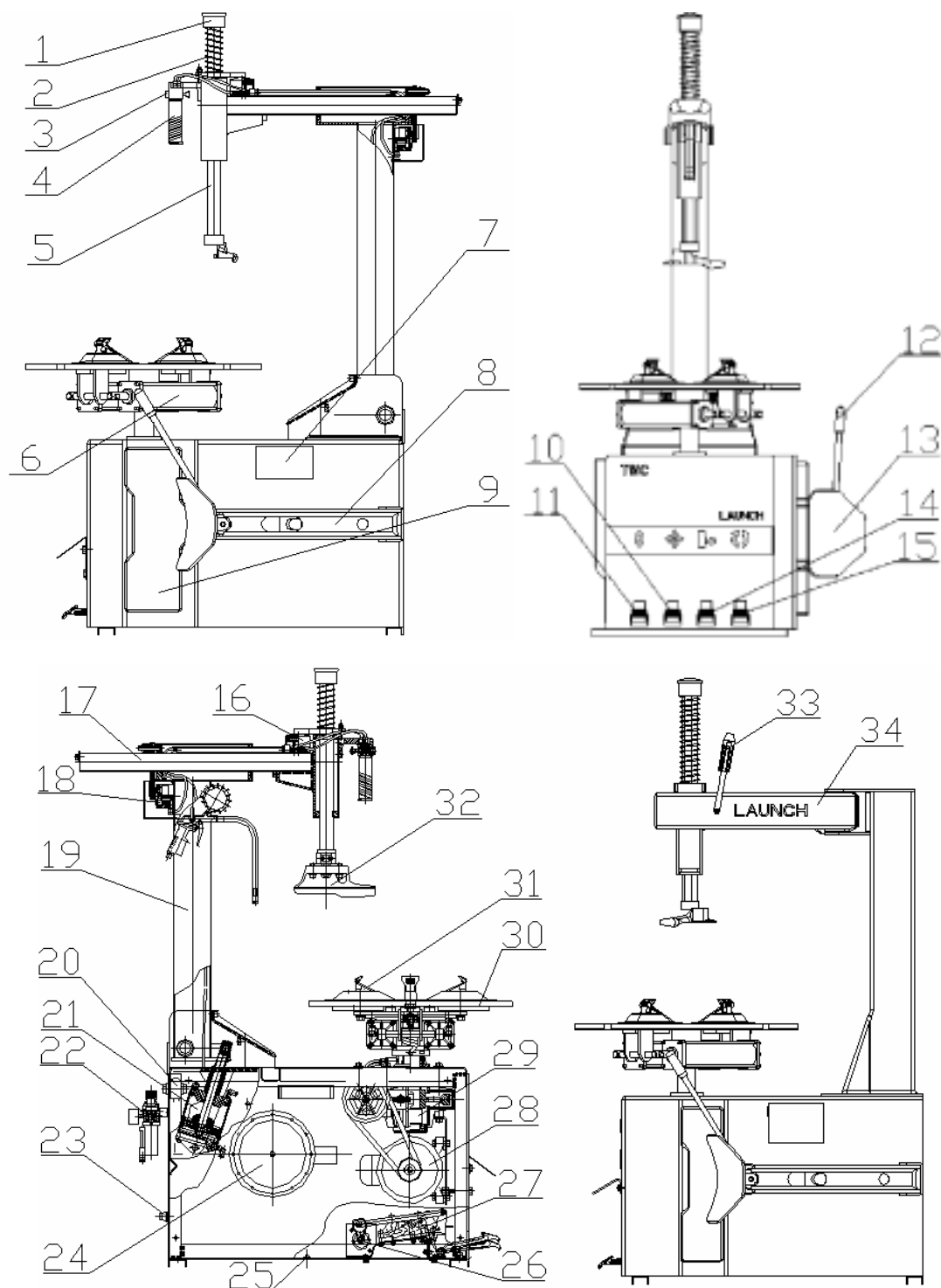
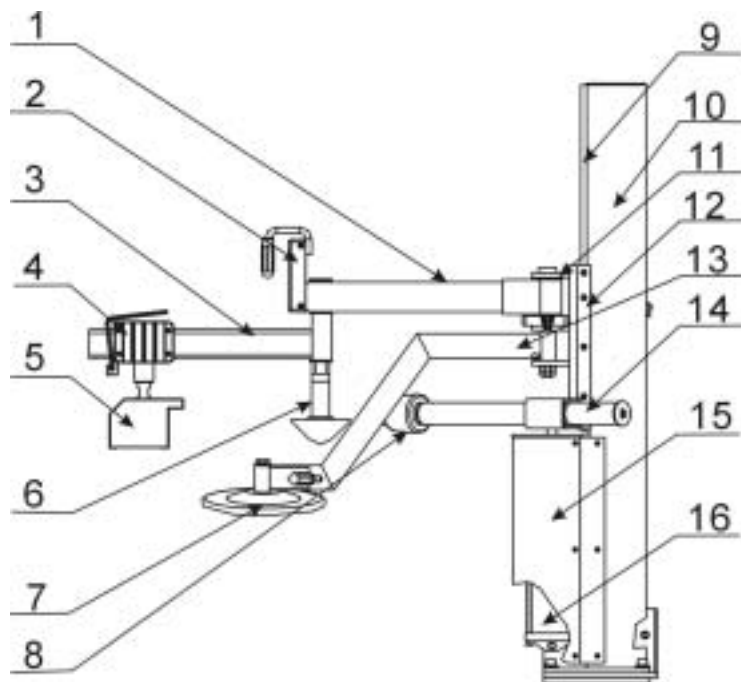


图 1

1、柱帽 2、回位弹簧 3、气阀锁紧按钮 4、锁紧手柄 5、六方杆 6、夹紧气缸 7、润滑液盒 8、分离铲臂 9、橡胶垫 10、夹紧气缸脚踏 11、立柱摆动脚踏 12、分离铲操纵手柄 13、分离铲 14、分离铲脚踏 15、转盘转向脚踏 16、六方杆锁紧气缸 17、四方横梁 18、四方横梁锁紧气缸 19、立柱 20、减压阀 21、倒臂气缸 22、气源三联件 23、电源线出口 24、大气缸 25、接地线 26、电机万能转换开关 27、控制阀 28、电机 29、减速器 30、转盘 31 卡爪、32、拆装头 33、六方杆锁紧手柄 34、横摇臂

2.2 辅助臂装置

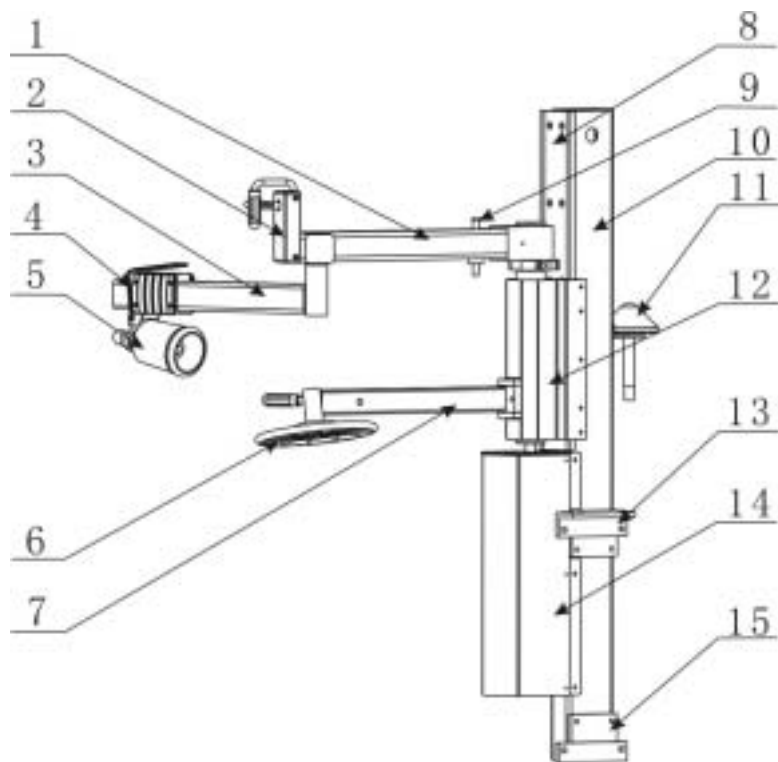
2.2.1 右辅助臂结构（如图 2）



1. 后转臂
2. 控制盒
3. 前转臂
4. 压胎座
5. 压块
6. 定位锥
7. 托胎盘
8. 压胎轮
9. 导轨
10. 立柱焊件
11. 后转臂垫套
12. 滑板
13. 托盘臂
14. 压胎横杆
15. 气缸护罩
16. 升降气缸

图 2

2.2.2 左辅助臂结构（如图 3）



1. 后转臂
2. 控制盒
3. 前转臂
4. 锁紧夹
5. 压胎轮
6. 托胎盘
7. 托盘臂
8. 导轨
9. 限位销
10. 立柱焊件
11. 定位锥
12. 滑板护罩
13. 立柱上支架
14. 升降气缸
15. 立柱下支架

图 3

三 安装调试工具

为了确保安装调试的顺利进行，请准备以下常见工具：

活动扳手两把，套筒扳手一套，内六角扳手一套，老虎钳一把，螺丝刀一套，榔头一把，万用表一只（测电压）。

四 开箱安装

4.1 开箱

- 按包装箱上的拆箱说明，将包装箱拆开，去掉周围的包装材料，检查机器有无在运输中受损，配件是否齐全。
- 将包装材料远离儿童放置，以免造成危险；若包装材料会造成污染，应将其妥善处理。
- 先将随机配件和备件取下放置安全位置，再将固定在包装底板上的机箱、立柱全卸下，放置于安全位置。

注：图 4 中所示为左辅助臂零部件，图 5 中所示为右辅助臂零部件。



图 4



压胎轮组件



前转臂组件



右托盘组件



定位锥



后转臂、立柱和升降气缸组件

图 5



注意：

精密部件表面都涂有一层特殊的防锈油，易沾上灰尘，必要时，应尽量擦除。

4.2 整机安装

4.2.1 横摇臂式的立柱安装(如图 6)

- 拧下机箱侧盖板上的螺栓，并取下侧盖板。
- 将立柱、回位弹簧、六方杆、柱帽等装在机箱上，并将所有紧固件旋紧。
- 盖上侧盖板，拧紧螺栓安装完成。

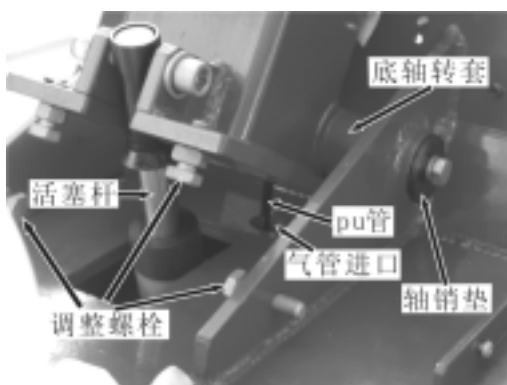


图 7



图 6

4.2.2 倒臂式的立柱安装(如图 7)

1. 将箱体安置在合适位置；
2. 用合适的工具将倒臂前板卸掉，再将底座立柱转轴取下；
3. 在底轴转套和底转轴上涂上一层润滑油；
4. 托起立柱，将立柱内的 pu 管塞进机箱气管进口，再将立柱安置于机箱底座处；
5. 对齐立柱底轴转套和机箱底座处两侧板圆孔，在底转轴上垫一木块再用榔头将其敲进，最后分别在底转轴两侧垫上轴销垫，再拧紧螺栓；
6. 将倒臂气缸活塞杆上的螺栓与螺母卸掉，再将螺栓穿过立柱两侧板圆孔和活塞杆上的圆孔，最后用锁紧螺母锁紧；
7. 调整四个调整螺栓，使立柱处于正确位置（见倒臂机构的调整）；
8. 将倒臂前板安装在原始位置；

4.2.3 左辅助臂的安装

1. 取出左辅助臂的机体，取下上端的螺钉和垫片（如图 8）；将机体按照图 9 所示正确连接；

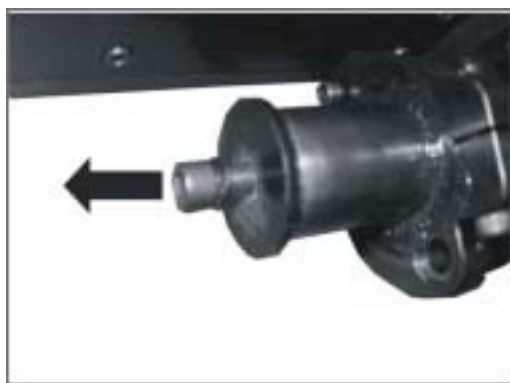


图 8

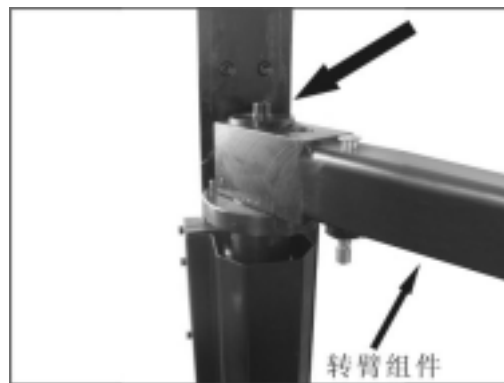


图 9

2. 将机箱左侧的螺栓和垫片取下，然后将机体（如图 9 中安装好的组件）竖立在座架上，加上垫

片用螺栓拧紧（如图 10）；

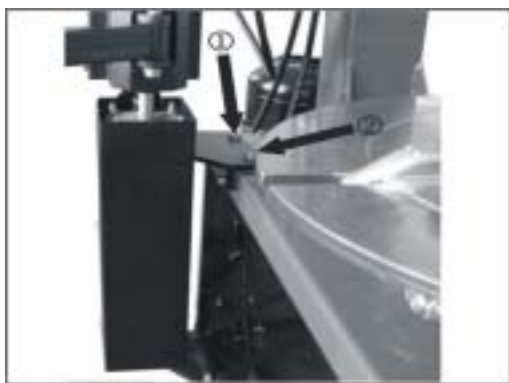


图 10



图 11

3. 取出托盘组件和相关紧固件，在紧固件上涂上一层润滑油，然后按照图 11 所示正确连接；最后将机体下部漏出的 PU 管从机箱左侧的小孔插入箱体内部（如图 12）；
4. 取出定位锥按照图 13 所示将其与前转臂组件连接；

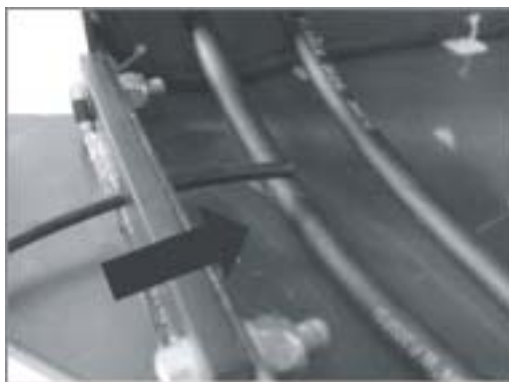


图 12



图 13

4.2.4 右辅助臂的安装

1. 取出后转臂、立柱和升降气缸组件，去掉上面的护罩（如图 14）然后取出托盘组件和相关紧固件，在紧固件上涂上一层润滑油，按照图 15 所示正确连接，最后将护罩按原样装上；



图 14

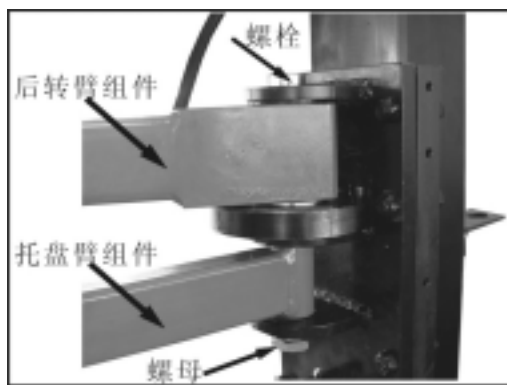


图 15

2. 将机箱右侧的螺栓（如图 16）和垫片取下，然后将机体（如图 15 中安装好的组件）竖立在座架上，加上垫片用螺栓拧紧，最后将机体下部漏出的 pu 管从机箱右侧的小孔插入箱体内部。

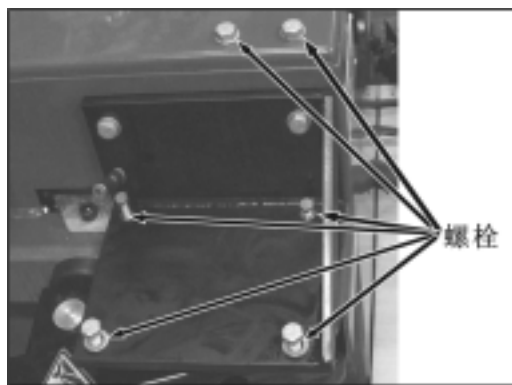


图 16

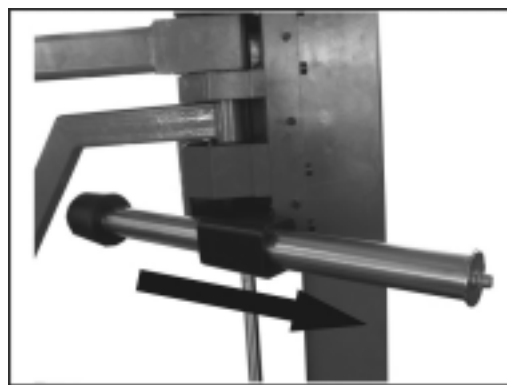


图 17



图 18



图 19

3. 取出压胎横杆和相关紧固件，在紧固件上涂上一层润滑油，然后按照图 17 所示正确连接；
4. 取出前转臂组件和相关紧固件，在紧固件上涂上一层润滑油，然后按照图 18 所示正确连接；
5. 取出定位锥按照图 19 所示将其与前转臂组件连接；

4.2.5 气路连接

1. 拆开机箱侧板；
2. 找到辅助臂内伸出的 pu 管，插进机箱内的变径接头（如图 20）如果是倒臂式的机型请将倒臂内伸出的 pu 管插进机箱内的另一个变径接头（如图 21）；

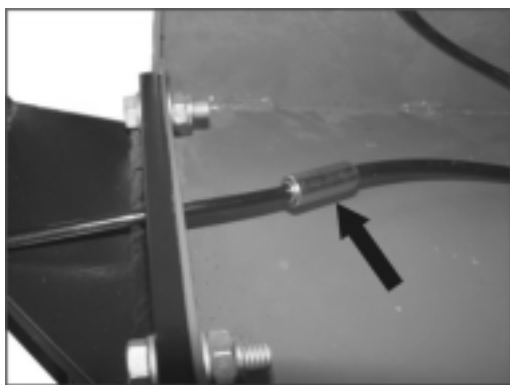


图 20

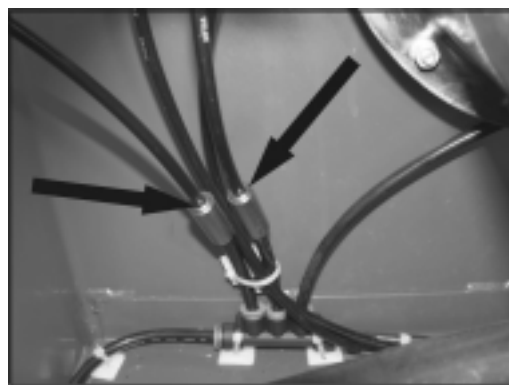


图 21

3. 如果是带快充的机型，请取出橡胶管按图 22 所示接上快速放气阀的接口上，另一头从机箱后部的圆孔中穿出去。



图 22



图 23

4. 装上机箱侧板

4.2.6 储气罐的安装

- 1, 用两套螺栓、螺母、弹簧垫圈和平垫将储气罐与箱体固定 (如图 23);
- 2, 按照图 24 中所示, 将橡胶管与储气罐接口连接, 然后将喉箍螺钉拧紧;



图 24



图 25

4.2.7 打气表的安装

- 如果是盒式打气表或数显打气表按照图 25 中所示, 将气压表盒安装在立柱一侧;
- 如果是枪式打气表, 取出气管将其一端连接到箱体尾部的接头上 (如图 26) 另一端连接至打气表并将打气表挂在立柱的挂钩上 (如图 27)。



图 26

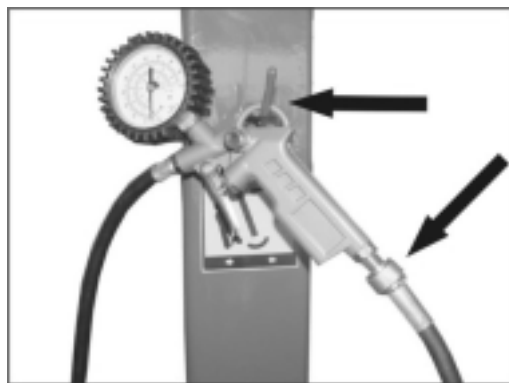


图 27

4.3 搬运

建议用户使用叉车搬运拆装机

- 在搬运的过程中，务必要用绳索将辅助臂的托盘、弯臂、直臂组件、立柱、四方横梁等运动件与箱体紧固，以防止它们被碰坏及伤人。
- 在运送过程中，不要发生过大的倾斜。
- 搬运过程中行驶速度不应过快；
- 尽量使机器在叉车上的位置低下，且要保证在运送过程中机器不会翻倒（注意机器的重心位置）。

4.4 定位

安装位置一定要满足安全工作的要求：

- 拆装机应安装在主电源和空气压缩系统附近。
- 拆装机应安装在平整的混凝土地板上，或其他具有硬表面的地板上，为了将机器可靠的固定在地面上，可用 4 个 M10 × 150 的地脚螺钉，将机器同地面固定牢靠，避免产生振动和噪音。
- 拆装机周围要留有足够的操作空间和维护空间，在前面和两侧一般不小于 1M，后面不小于 0.5M，以满足机器各部件正常操作而不受限制。
- 若拆装机装在户外，必须搭保护屋架。
- 不允许在有易燃气体场所使用机器。



说明：为了安全与合理使用，建议将本机安放在距离墙面至少 0.75M 的地方。

4.5 电源与气源的连接

- 在安装连接之前，检查电源和压缩空气系统是否与该机器铭牌要求一致。所有电气的安装必须由专业人员进行。
- 电源连接插座应安装在操作者控制范围之内，建议其安装高度在 0.6 ~ 1.7M 之间。
- 若外界电源电压不稳，请使用稳压器与机器相连。
- 机器要有良好的外壳接地保护。



本机器未设电机过载保护，请用户按本手册附录中提供的保护电路接线，否则由此引起的事故，厂家概不负责。

五 基本设备的调试



说明：

调试前应确保电源和气源符合要求。

5.1 设备的初始调试

说明：四个脚踏必须在原始位置。

1. 踏下脚踏^①，转盘顺时针旋转；
2. 上抬脚踏^②，转盘逆时针旋转；
3. 踏下脚踏^③，分离铲动作，松开脚踏后回位；
4. 踏下脚踏^④，转盘上的卡爪张开；当再踏一下时，卡爪又合上；
5. 踏下脚踏^⑤，立柱慢慢地后仰，当再踏一下时，立柱回位（倒臂式）。

5.2 卡爪夹紧系统的调试

- 转盘上的卡爪（如图 28）位置通过转盘下夹紧气缸杆的伸缩来控制。气缸杆的伸缩由脚踏^④来控制。脚踏^④有高中低三个位置。当脚踏^④处于高位时，夹紧气缸杆向里收缩，则卡爪也向里收缩，直至收缩到最小；
- 当脚踏^④处于低位时，夹紧气缸杆向外伸，卡爪也向外运动，直至运动到最大位置。
- 当卡爪在从外向内运动过程中，轻踩脚踏^④，使其处于中位，卡爪运动停止。巧妙运用该位置，可以使卡爪停留在最大和最小之间任意位置。（倒臂式）

运动链的组成：本机运动链由电机，皮带轮，蜗轮蜗杆减速器，转盘等组成（如图 29）。电机转速约 1400 转/分，总速比 200。电机转向由脚踏^①（如图 29）控制。用脚踩下脚踏并保持电机正转，转盘顺时针转动。松开脚踏，则脚踏回位，电机停转。用脚面抬起脚踏^②，电机反转，转盘反时针转动。如情况与上述相反，调换电机相线。地线要接地。在轮胎拆装操作中，转盘总是顺时针转动，只有偶然拆装受阻时才需反转。

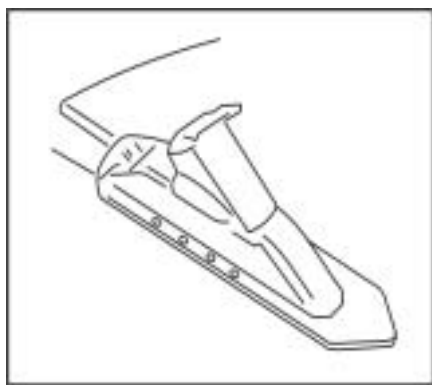


图 28

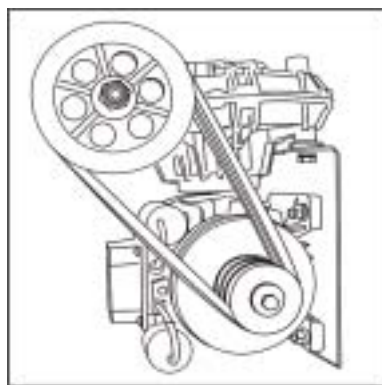


图 29

5.3 分离铲调试

分离铲位于机箱右侧，它的工作程序是：用脚踩下脚踏^③，机箱内大气缸工作，气缸活塞杆将分离铲拉向机箱方向。其拉力应在 14075N 左右。松开分离铲脚踏^③，气缸活塞杆被压出。分离铲可以在一定范围内左右摆动，如摆动幅度不合适，调整活塞杆右端螺母（如图 30）即可。

5.4 六方杆的锁紧调整（摇臂式）

- 当六方杆锁紧手柄（如图 31）向下时，六方杆在外力和回位弹簧的作用下可以上下自由滑动；当六方杆锁紧手柄逆时针转动约 120 度时，连接在手柄上的凸轮将锁板顶起使六方杆锁死。如达不到该种情况，调节螺母的上下位置，即可实现锁紧六方杆的目的。

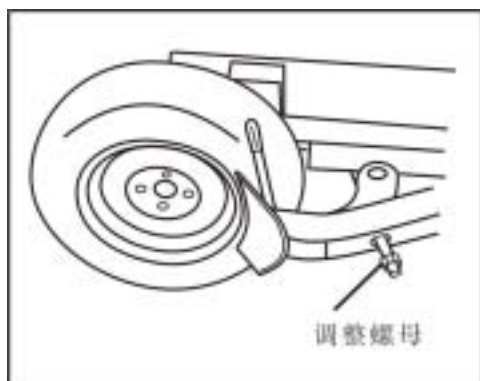


图 30

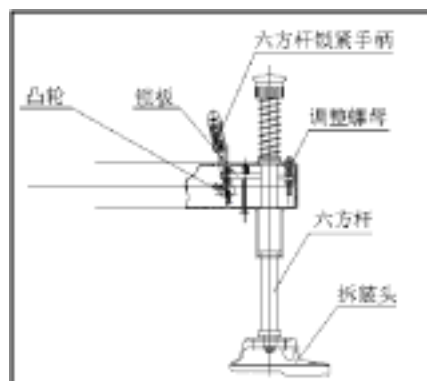


图 31

5.5 气源三联件的调试与调整

- 如图 32 所示，图中有一气压调节钮。将其拔起，反时针旋转是减压；顺时针旋转是增压。将压力调到工作压力后，按下调节钮以锁紧。
- 空气净化器是滤除空气中的水和杂质。当水和杂质累积量超过红线标志时，旋开下面的放水钮，然后用手指上压以将杂物排出。
- 油雾器是向工作气体中加入定量的润滑油，用于润滑气缸和气阀中的运动零件。踩下脚踏或 [脚踏]，3~5 次后，润滑器玻璃杯中会有一滴油滴入，如达不到该流量值，可调节油量调节螺钉来实现。

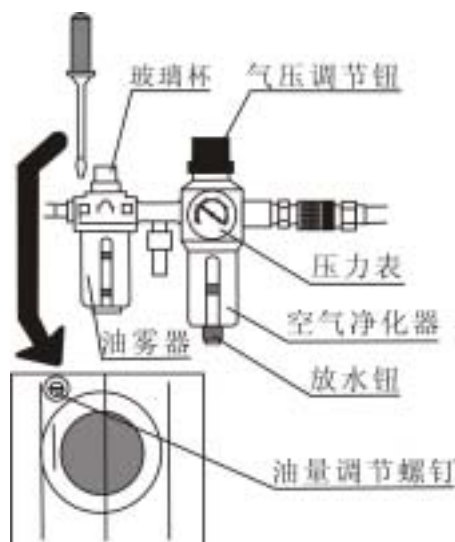


图 32

5.6 拆装头的调整

1，检验（以 13 英寸轮毂为例，其余规格以同样方法）

- 1) 将一直径为 13 英寸的铝合金轮毂安装在转盘上；
- 2) 使拆装头与轮辋配合，并锁紧；

3) 按照图 33 (滚轮拆装头) 和图 34 (护垫拆装头), 使用专用检测工具检验。

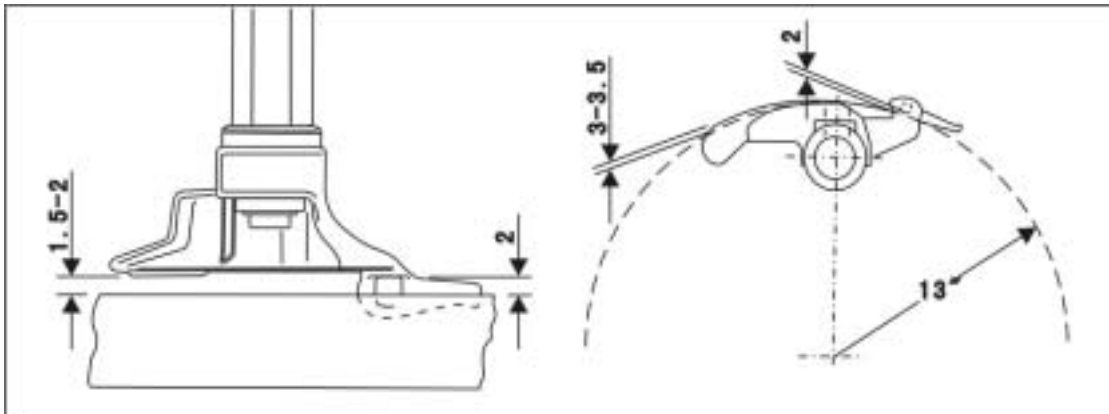


图 33

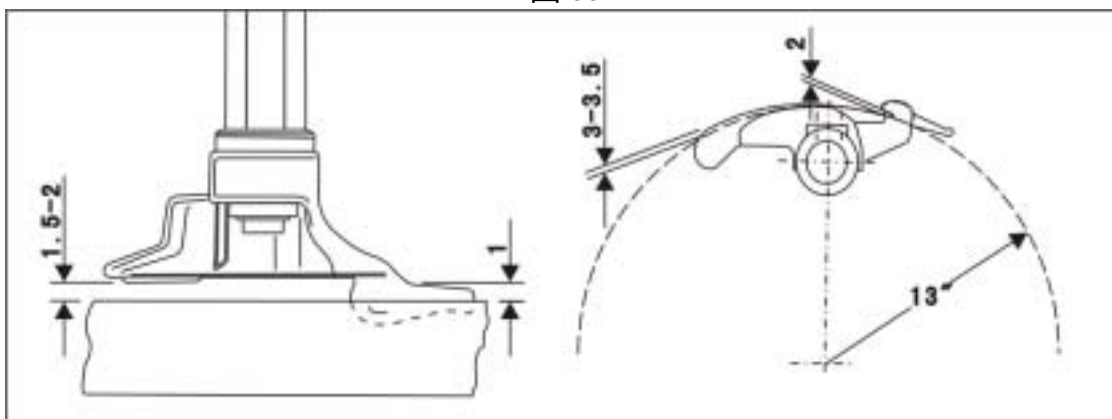


图 34

2, 调整

- 1) 松开所有紧固拆装头的螺钉；
- 2) 使拆装头与轮辋相吻合，并锁紧六方杆；
- 3) 稍微将螺钉 A3—A4 (图 37, 38) 拧紧，调整拆装头使其处于正确的状态；
- 4) 分别将螺钉 A1—A2 (图 35, 39 具有滚轮；图 36, 40 具有护垫) 拧紧，以使拆装头位置在正确范围内，然后用手将螺栓 B 紧固；
- 5) 解锁并升起六方杆，再使拆装头与轮辋相吻合，并锁紧六方杆；
- 6) 初次用 50Nm 的力矩将螺栓 A1-A2-A3-A4 拧紧，再用专用测量尺检测数据,确保其与图中数据一致；
- 7) 最后，用 50Nm 的力矩紧固螺栓 B，再用专用测量尺检查一次。

3. 定期检查

使用半年后，按照“检验”步骤检查相关数据是否正确，如果数据不正确，则按以下步骤进行：

- a) 检查螺栓是否紧固；
- b) 如果数据 2 (滚轮，图 35) 或数据 1 (护垫，图 36) 发生变动，可能是由于螺母 i (图 42) 发生松动。拧紧或松动螺母 i 增加或减小倾斜角度；
- c) 如果数据 2 改变 (图 37)，可能是由于螺母 e (图 42) 松动或锁板 c (图 42) 变形。旋紧或松弛螺母以增加或减少移动范围。用最少 70Nm 的扭矩将螺母紧固。

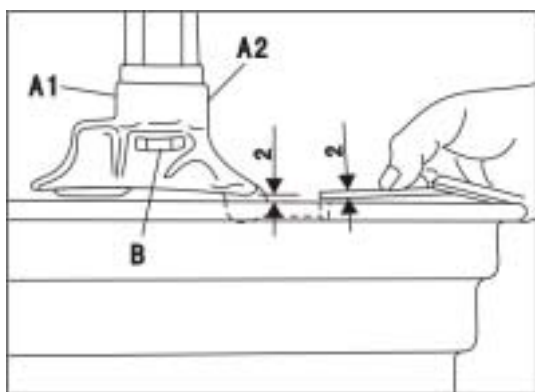


图 35

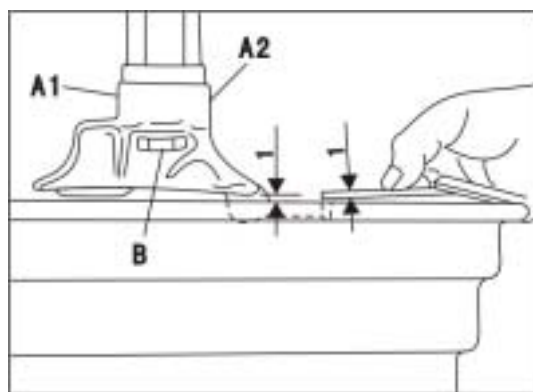


图 36

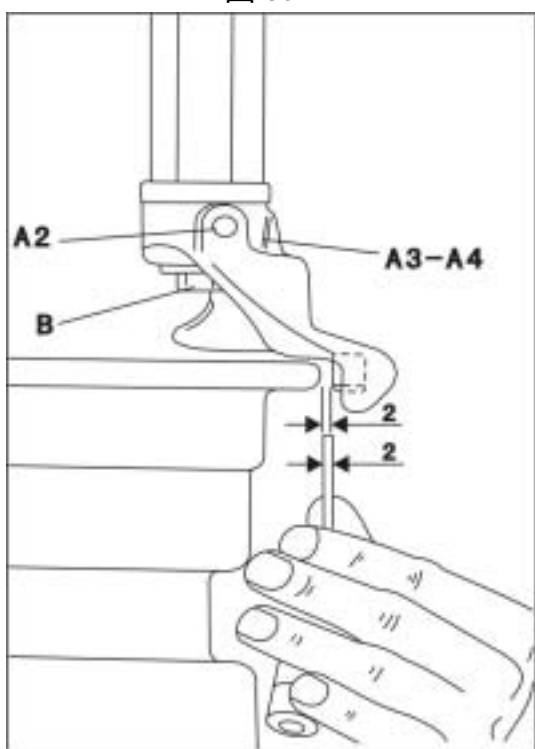


图 37

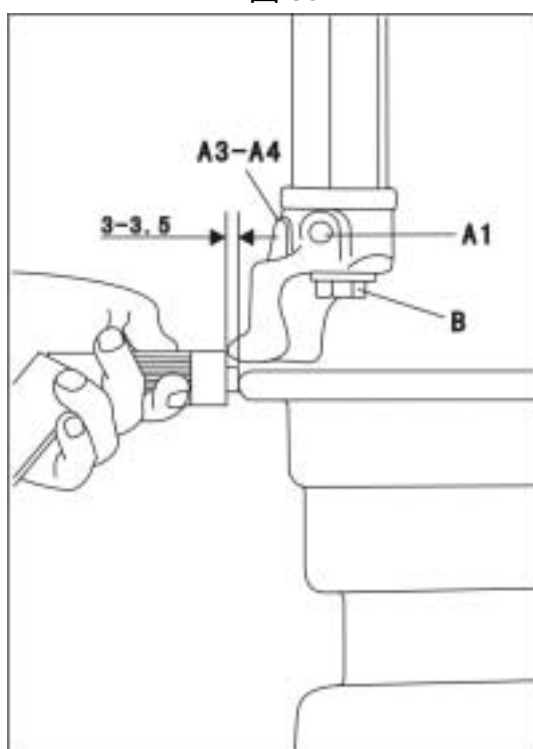


图 38

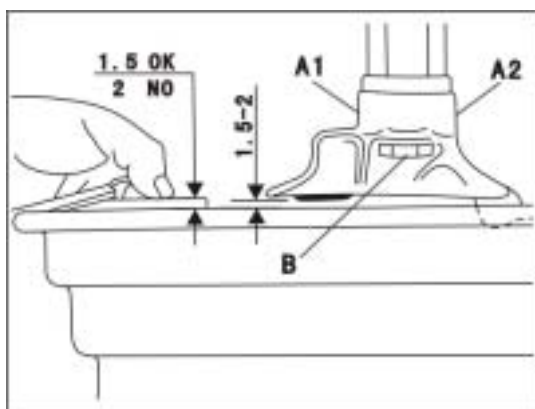


图 39

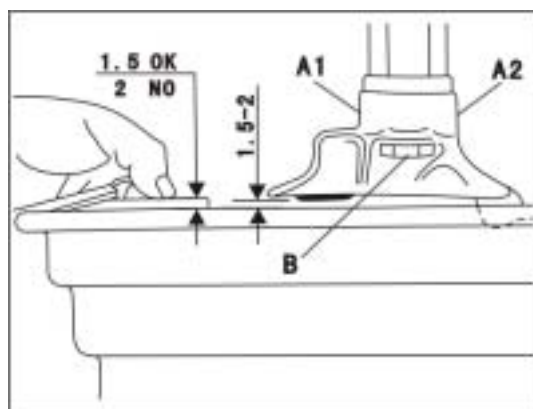


图 40

5.7 倒臂机构的调试（倒臂式）

- 倒臂机构中立柱由机箱内倒臂气缸控制，从而使其后仰（以便从转盘上取下车轮）和回位（工作位置）。此倒臂气缸由脚踏^①控制，脚踏^①被踩下时，立柱后仰，再踩下时立柱回位（如图 41）。如立柱后仰和回位时速度过快或过慢，可以调整节流阀。如过快则旋紧阀口螺钉，如过慢则旋松阀口螺钉。节流阀有两个，一个用于调节倒臂机构后仰速度，另一个用于调节倒臂机构回位速度。
- 在立柱底面有两个螺栓，用来调节立柱的前后位置。同样在立柱两侧也有两个螺栓，用来调节立柱的左右位置。

5.8 四方横梁和六方杆锁紧机构的调试与调整（倒臂式）

在图 42 中，锁紧手柄 k 上的气阀锁紧按钮 j 控制锁紧气缸的伸缩。当用拇指按下气阀按钮时，锁紧气缸 b 和 g 的外壳被顶出，其外壳分别顶着锁紧板 c 和 h。由于锁紧板的倾斜，将四方横梁和六方杆锁紧。当用食指将气阀按钮 j 压出时，锁紧气缸 b 和 g 收缩，锁紧板 c 和 h 松弛，四方横梁和六方杆被放松。当出现四方横梁和六方杆锁不紧或放不开时，可分别调整螺母 e 和 i。锁不紧时，旋紧螺母；放不开时，旋松螺母。

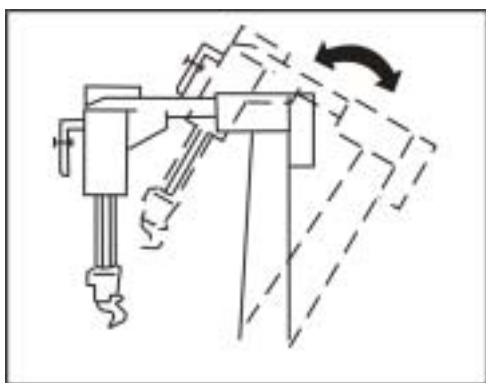


图 41

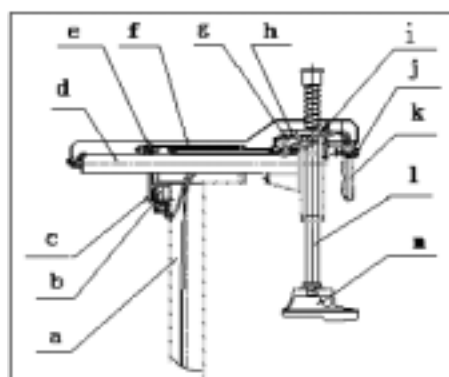


图 42



注意：

要确保立柱底面两个螺栓在同一位置，以使两螺栓的受力相同，立柱处于垂直位置。

六 设备零部件明细

本明细仅为维修和保养人员提供参考，请勿移作它用，否则一切后果本公司不予承担。如有零部件损坏，可按明细中对应的物料编码向经销商或元征公司索购。

注：*表示为易损易耗件。TWC 系列爆炸图详见 51-62 页。

编号	名称	编号	名称
1	脚垫	712	十字槽沉头螺钉 M6×16
2	内六角螺钉 M6×12	*713	缓冲垫
3	内六角螺钉 M6×50	714	内六角平端紧定螺钉
4	侧盖板	715	金属拆装头
5	箱体总成	716	拆装头垫圈
6	电源线卡	717	内六角平端螺栓 M10×25
7	电源线	718	倒臂气缸活塞
8	橡胶垫	719	四方横梁组件
9	内六角螺钉 M8×25	720	橡胶板
10	平垫圈 φ8	721	六角螺栓 M8×16
11	六角螺栓 M8×25	722	立柱组焊件
12	轻型弹簧垫圈 φ8	723	后锁板
13	螺母 M8	724	自锁螺母 M12
14	面罩	725	压簧
15	脚踏丝印示意图	726	内六角螺钉 M6×45
101	肘节接头	727	锁紧气缸盖
102	夹紧气缸体	728	锁紧气缸体
103	拉杆螺柱	729	密封垫
*104	O 型密封圈 φ65×2.65	730	L 型弯接头
105	夹紧气缸后盖	731	锁紧气缸总成
106	锁紧螺母 M8	732	倒臂气缸总成
*107	Y 型密封圈 28×20×5	733	立柱底转轴
108	夹紧气缸活塞杆	734	轴销垫
109	夹紧气缸前盖	735	弹簧垫圈 φ10
110	平垫圈 φ12	736	六角螺栓 M10×25
111	夹紧气缸活塞	737	螺母 M10
112	轻型弹簧垫圈 φ12	738	六角螺栓 M12×70
113	夹紧气缸总成	739	倒臂气缸前盖
114	夹紧气缸活塞	740	倒臂气缸体
115	工作台胶盖	741	气缸拉杆螺柱
116	六角螺栓 M16×40	742	倒臂气缸后盖
117	工作台大垫圈	743	锁紧螺母 M8
118	转盘	744	六角螺栓 M12×120
119	卡爪	745	隔套
120	滑鼠	746	气缸轴套
121	滑板	747	缓冲块
122	卡爪座体	748	缓冲垫 2

编号	名称	编号	名称
123	卡爪座	749	气缸活塞杆
124	工作台锥套	750	缓冲垫 1
125	连杆销套	751	缓冲座
126	平垫圈 $\phi 12$	752	薄螺母 M12
127	弹簧垫圈 $\phi 12$	*753	拆装头滑块
128	六角螺栓 M12 \times 80	*754	拆装头护垫
129	连杆组件	755	拆装头滚轮
130	方型转盘体	756	拆装头滚轮销
131	方型转盘垫片		
132	轴用弹性挡圈 $\phi 65$	801	螺纹三通
133	空压软管	802	螺纹直通
134	三通接头	803	消声器
135	轴用弹性挡圈 $\phi 12$	804	五通阀体组件
136	旋转工作台总成	*805	O 型密封圈 $\phi 11.8 \times 4$
201	大气缸体	806	五通隔套
202	螺母 M6	807	六角螺栓 M6 \times 25
203	弹簧垫圈 $\phi 6$	808	锁紧螺母 M6
204	平垫圈 $\phi 6$	809	十字槽盘头螺钉 M4 \times 35
205	六角螺栓 M6 \times 16	810	平垫圈 $\phi 4$
206	锁紧螺母 M16	811	螺母 M4
207	平垫圈 $\phi 16$	812	凸轮罩
208	大气缸活塞	813	自攻螺钉 ST2.9 \times 4.5
209	O 型密封圈 $\phi 16 \times 2.65$	814	凸轮体
*210	高低唇密封圈	815	凸轮弹簧片
211	O 型密封圈 $\phi 180 \times 3.55$	816	转向开关罩
212	大气缸盖	817	电机万能转换开关
213	定位螺钉	818	十字槽盘头螺钉 M4 \times 16
214	O 型密封圈 $\phi 19 \times 2.65$	819	转换开关柄
215	大气缸压垫	820	脚踏支架组件
216	平垫圈 $\phi 16$	821	扭簧支架
217	锁紧螺母 M16	822	脚踏回位弹簧
218	L 型弯接头	823	扭簧
219	大气缸总成	824	转换开关连杆
220	铲臂连接销	825	六角螺栓 M8 \times 55
221	平垫圈 $\phi 22$	826	凸轮连杆
222	轴用弹性挡圈 $\phi 22$	827	脚踏隔套
223	铲臂拉簧	828	锁紧螺母 M8
224	导向轴	829	转盘转向脚踏
225	平垫圈 $\phi 8$	830	五通阀脚踏
226	弹簧垫圈 $\phi 8$	831	脚踏轴
227	六角螺栓 M8 \times 16	832	脚踏总成

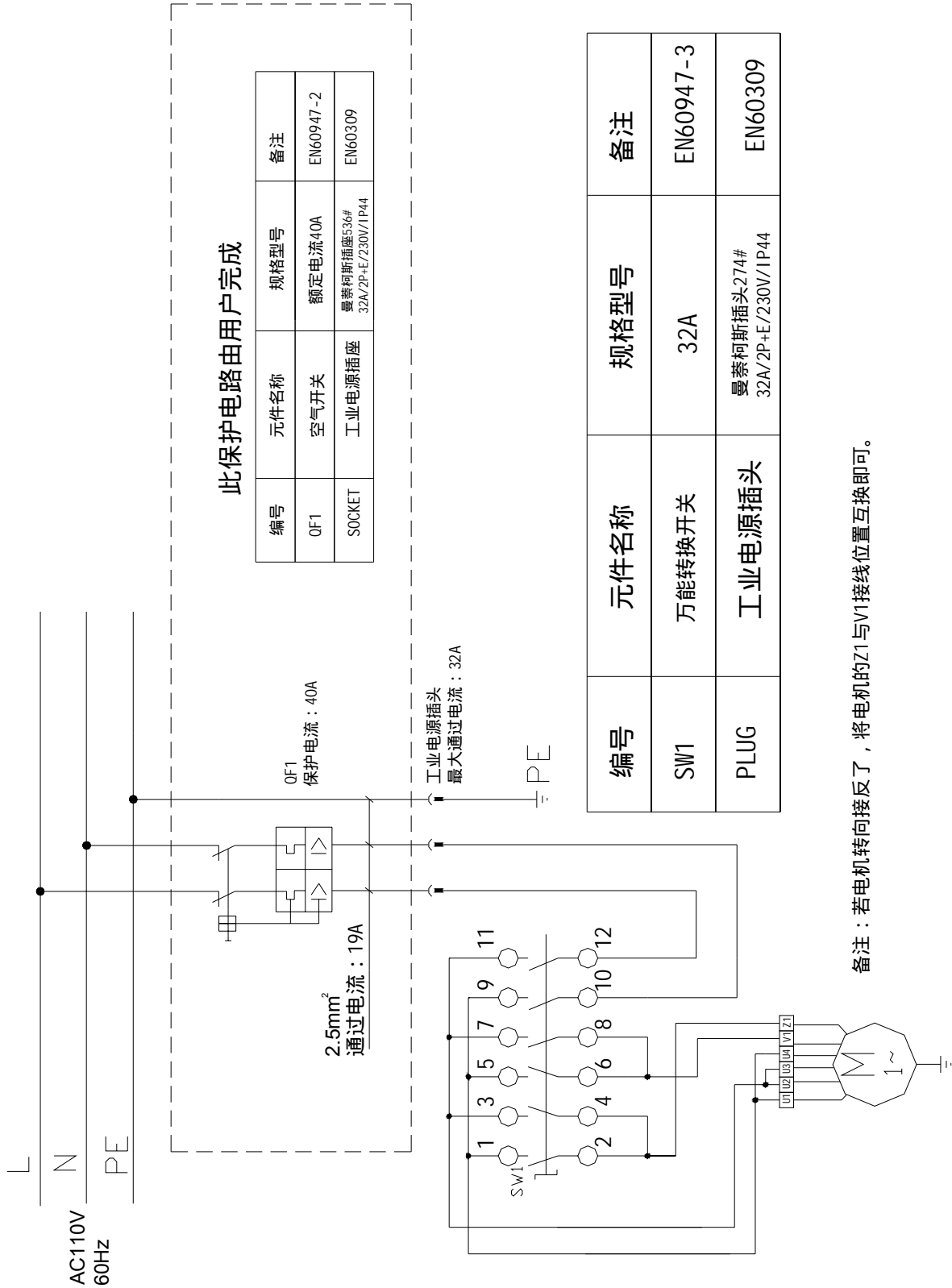
编号	名称	编号	名称
228	万向接头座垫	901	压胎组件
229	平垫圈 $\phi 16$	902	可调消声器
230	分离铲臂	903	三位五通手动换向阀
231	分离铲手柄套	904	快插式直角终端接头
232	分离铲	905	转臂限位垫圈
233	内六角螺钉 M12×90	906	内六角螺钉 M10X16
234	锁紧螺母 M12	907	后转臂组焊件
*235	分离铲护套	908	快插式三通终端接头
236	大气缸活塞杆	909	可调消声器
301	柱帽	910	后转臂弹簧座
302	回位弹簧	911	后转臂弹簧
303	锁紧板	912	弹簧座垫圈
304	六方杆	913	孔用弹性挡圈
305	调节杆	914	内六角螺栓 M8X16
306	锁杆套	915	垫圈 8
307	偏心轮	916	分离轮小垫圈
308	内六角螺钉 M6×16	917	分离轮
309	内六角平端紧定螺钉	918	滑板护罩
310	六方杆锁紧手柄	919	后转臂垫套
311	十字槽盘头螺钉 M3×10	920	后转臂垫套
312	压簧	921	内六角螺钉 M8X20
313	旋扭手柄	922	后转臂上垫圈
314	转杆	923	后转臂销
315	平垫圈 $\phi 18$	924	导轨
316	锁紧螺母	925	滑座调整片
317	横摇臂	926	右滑座
318	立柱组焊件	927	立柱上盖
319	六角螺栓 M12×60	928	内六角螺钉 M6 X 10
320	锁紧螺母 M12	929	定位块放置座
*321	缓冲垫	930	分离轮横滑杆组焊件
322	金属拆装头	931	分离大轮垫圈
323	拆装头垫圈	932	内六角螺栓 M8X16
324	内六角平端螺栓 M10×25	933	立柱组焊件
325	转杆套垫	934	内六角螺钉 M12 X 30
326	薄螺母 M10	935	垫圈 12
327	组合式盖形螺母 M10	936	垫圈 12
328	锁紧螺母 M10	937	座架组焊件
329	丝杆 M10×90	938	座架垫板
330	转臂前盖	939	轴用弹性挡圈 15
331	六角螺栓 M8×80	940	立柱支架组焊件
*332	拆装头滑块	941	滑板组焊件

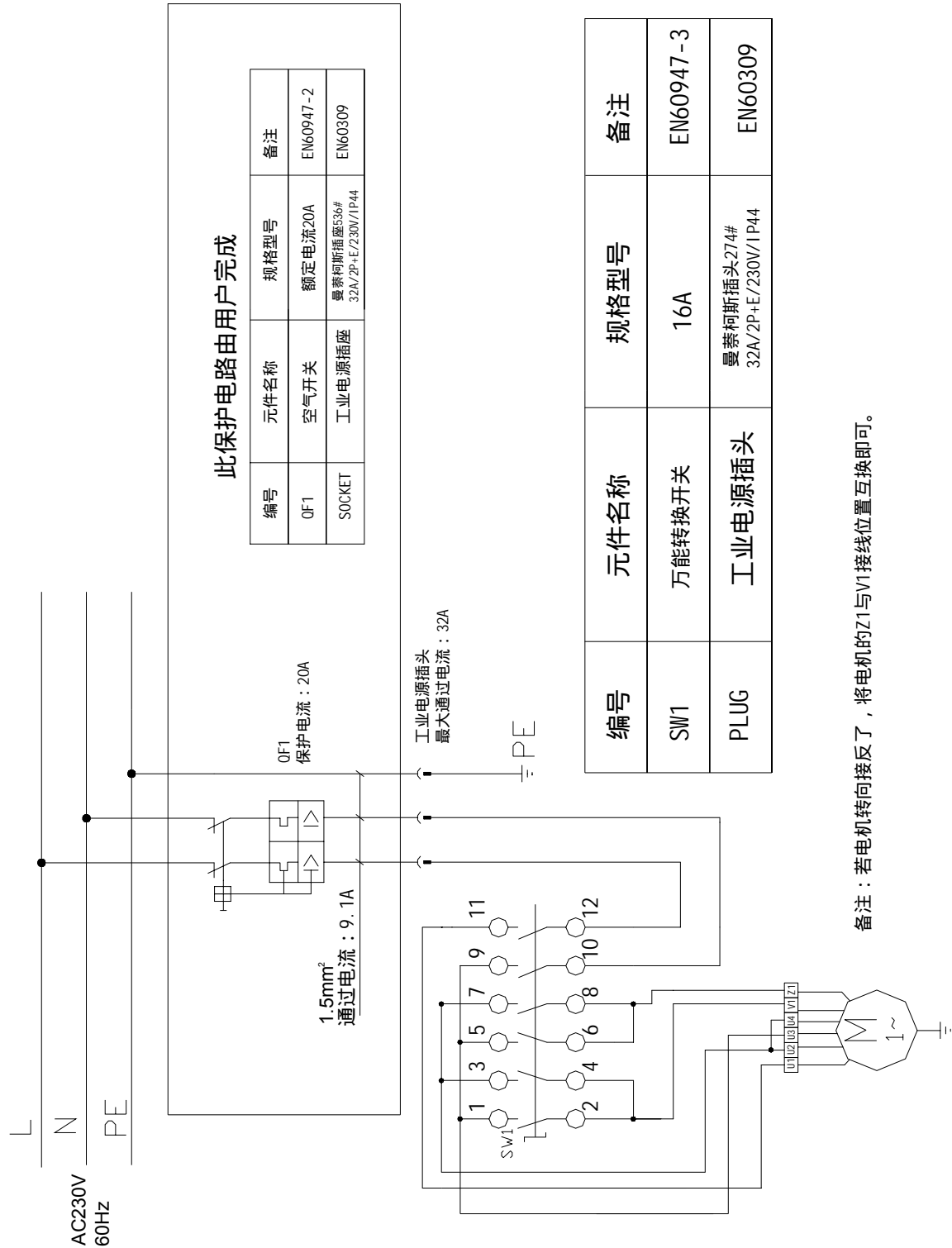
编号	名称	编号	名称
*333	拆装头护垫	942	左滑座
334	拆装头滚轮	943	轴用弹性档圈
335	拆装头滚轮销	944	气缸顶连接销
401	拨盘	945	升降气缸总成
402	内六角锥端紧定螺钉 M8×12	946	气缸护罩右架
403	螺纹直通	947	十字槽盘头螺钉
404	螺纹直通	948	气缸底连接销
405	配气阀芯组件	949	六角薄螺母 M20
*406	O 型密封圈 φ60×2.65	950	滑板护罩压板
407	配气阀套	951	气缸护罩左架
408	内六角螺钉 M6×20	952	气缸护罩组件
409	六角螺栓 M10×50	953	气缸护罩上盖
410	弹簧垫圈 φ10	954	控制盒
411	圆锥销 A6×15	955	托臂组焊件
412	蜗轮箱上盖	956	锁杆手柄
413	蜗轮轴	957	托轮
414	角接触轴承	958	托轮轴
415	减速箱隔套	959	锁杆手柄
416	键 A14×40	960	防松螺母
417	蜗轮	961	转臂转动垫圈
418	蜗轮箱下盖	962	前转臂销
419	锁紧螺母 M6	963	内六角螺钉 M8 X 16
420	减速箱密封盖组件	964	压胎组件
421	O 型密封圈 φ34.5×3.55	965	内六角圆柱端紧定螺钉
422	圆锥滚子轴承	966	前转臂组焊件
423	蜗杆	967	定心压杆
424	FB 型密封圈 20×35×7	968	压杆垫圈
425	键 A6×21	969	轮胎定心锥
426	平垫圈 φ14	970	垫圈 8
427	锁紧螺母 M14	971	右辅助臂总成
428	减速器皮带轮	1001	压胎轮组件
429	减速箱总成	1002	内六角螺钉
430	旋转配气阀总成	1003	前转臂组焊件
431	V 型三角带 A-28	1004	控制盒
432	六角螺栓 M8×25	1005	可调消声器 (全金属)
433	电机平垫	1006	三位五通手动换向阀
434A	电机皮带轮 60Hz	1007	快插式直角终端接头(全金属)
434B	电机皮带轮 50Hz	1008	锁杆手柄
435	平键 C8×30	1009	内六角螺钉
436	六角螺栓 M10×35	1010	转臂限位垫圈
437	电机缓冲垫	1011	后转臂组焊件

编号	名称	编号	名称
438	六角螺栓 M8×80	1012	滑板护罩
439	电机支架	1013	左滑座
440A	电机 ~230V/50Hz 1.1kw	1014	导轨
440B	电机 ~230V/60Hz 1.1kw	1015	滑座调整片
440C	电机 ~220V/50Hz 1.1kw	1016	立柱上盖
440D	电机 ~220V/60Hz 1.1kw	1017	右滑座
440E	电机 ~110V/60Hz 1.1kw	1018	定位块放置座
440F	电机 ~110V/50Hz 1.1kw	1019	立柱
441	旋转阀接管	1020	立柱上支架组焊件
442A	电容 125V/800μF (110V/60Hz)	1021	立柱支撑脚
442B	电容 2 50V/200μF (220V/50Hz)	1022	立柱下支架组焊件
501	螺纹三通	1023	轴用挡圈
502	L 型弯接头	1024	气缸护罩右架
503	消声器	1025	气缸座组焊件
504	五通阀体组件	1026	气缸底连接销
*505	O 型密封圈 φ11.8×4	1027	升降气缸总成
506	五通隔套	1028	气缸护罩左架
507	六角螺栓 M6×25	1029	气缸护罩
508	锁紧螺母 M6	1030	轮胎定心锥
509	十字槽盘头螺钉 M4×35	1031	压杆垫圈
510	平垫圈 φ4	1032	定位压杆
511	螺母 M4	1033	气缸护罩上盖
512	凸轮罩	1034	前转臂销
513	自攻螺钉 ST2.9×4.5	1035	托臂组焊件
514	凸轮体	1036	六角锁紧螺母
515	凸轮弹簧片	1037	锁杆手柄
516	转向开关罩	1038	托轮
517	电机万能转换开关	1039	托轮轴
518	十字槽盘头螺钉 M4×16	1040	前转臂限位销
519	转换开关柄	1041	孔用弹性挡圈 30
520	脚踏支架组件	1042	弹簧座垫圈
521	扭簧支架	1043	内六角圆柱头螺钉
522	脚踏板回位弹簧	1044	升降主轴垫圈
523	扭簧	1045	后转臂弹簧
524	转换开关连杆	1046	后转臂弹簧座
525	六角螺栓 M8×55	1047	可调消声器 (全金属)
526	凸轮连杆	1048	快插式三通终端接头 (G 型)
527	脚踏隔套	1049	衬套
528	锁紧螺母 M8	1050	锁套体
529	转盘转向脚踏	1051	升降主轴

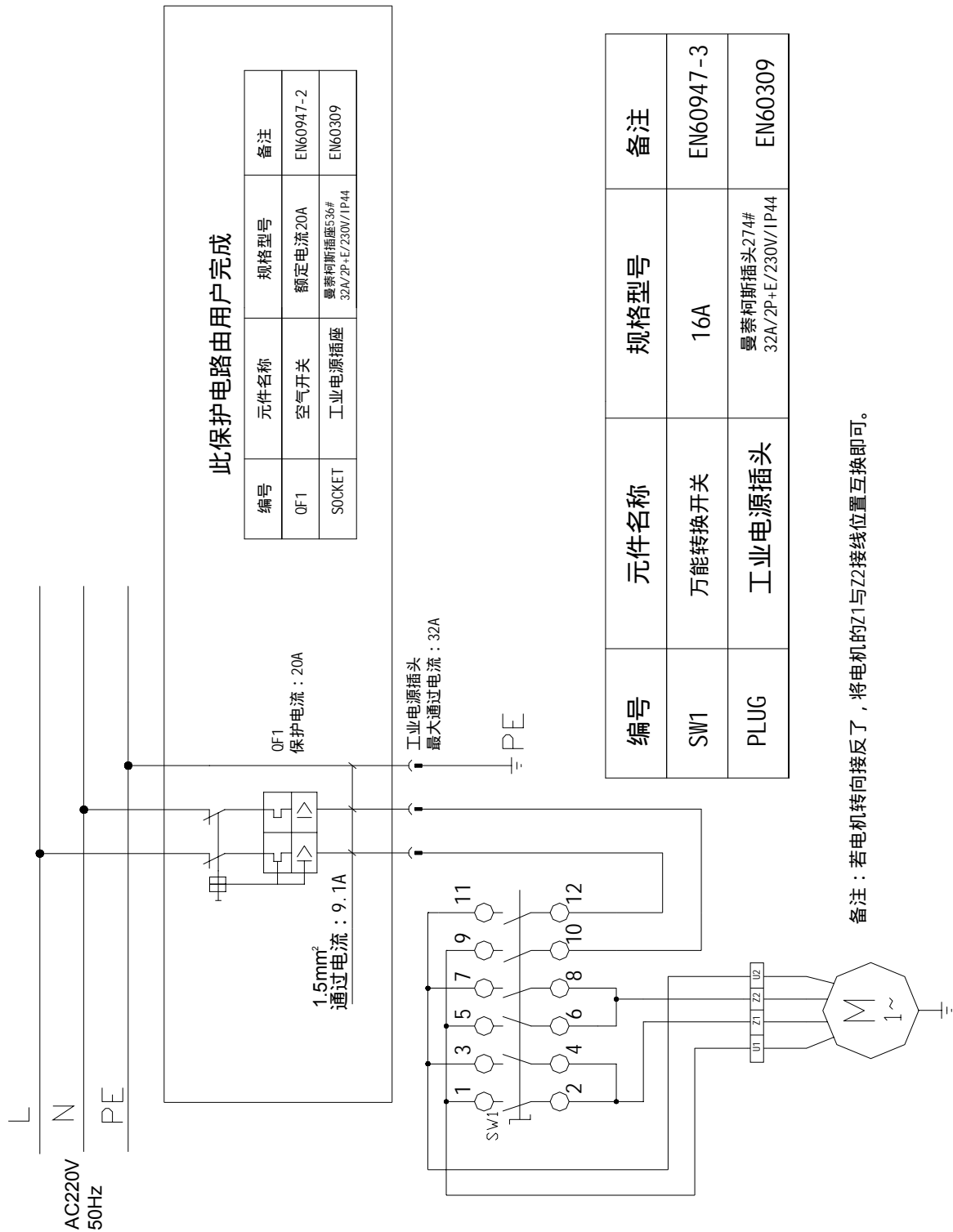
编号	名称	编号	名称
530	五通阀脚踏	1052	定位套
531	脚踏轴	1053	轴用弹性挡圈
532	脚踏总成	1054	锁紧圈
601	脚垫	1055	托臂转销
602	内六角螺钉 M6×12	1056	气缸顶连接销
603	内六角螺钉 M6×50	1057	托臂座架组焊件
604	侧盖板	1058	六角锁紧螺母
605	箱体总成	1059	轴用挡圈
606	电源线卡	1060	滑板
607	电源线	1061	普通圆柱销
608	橡胶垫	1062	左辅助臂总成
609	内六角螺钉 M8×25	1101	撬杠
610	平垫圈 φ8	1102	压力表充气枪
611	六角螺栓 M8×25	1103	塑胶拆装头与拆装头座组件
612	轻型弹簧垫圈 φ8	1104	拆装头座
613	螺母 M8	1105	内六角平端紧定螺钉 M8×20
614	面罩	*1106	塑胶拆装头
615	脚踏丝印示意图	1107	平垫圈 φ10
701	柱帽	1108	六角螺栓 M10×50
702	回位弹簧	1109	内六角螺钉 M8×25
703	平垫圈 M6	1110	平垫圈 φ8
704	六方杆	1111	减压阀
705	前锁板	1112	L 型弯头
706	锁紧气缸	1113	润滑剂盒
707	T 型三通接头	1114	盒盖
708	垫套	1115	箱体
709	内六角螺钉 M6×35	1116	气源三联件
710	空压软管	1117	L 型弯头
711	锁紧手柄组件	1118	T 型三通接头

TWC 系列电路图





备注：若电机转向接反了，将电机的Z1与V1接线位置互换即可。



TWC 系列气路图

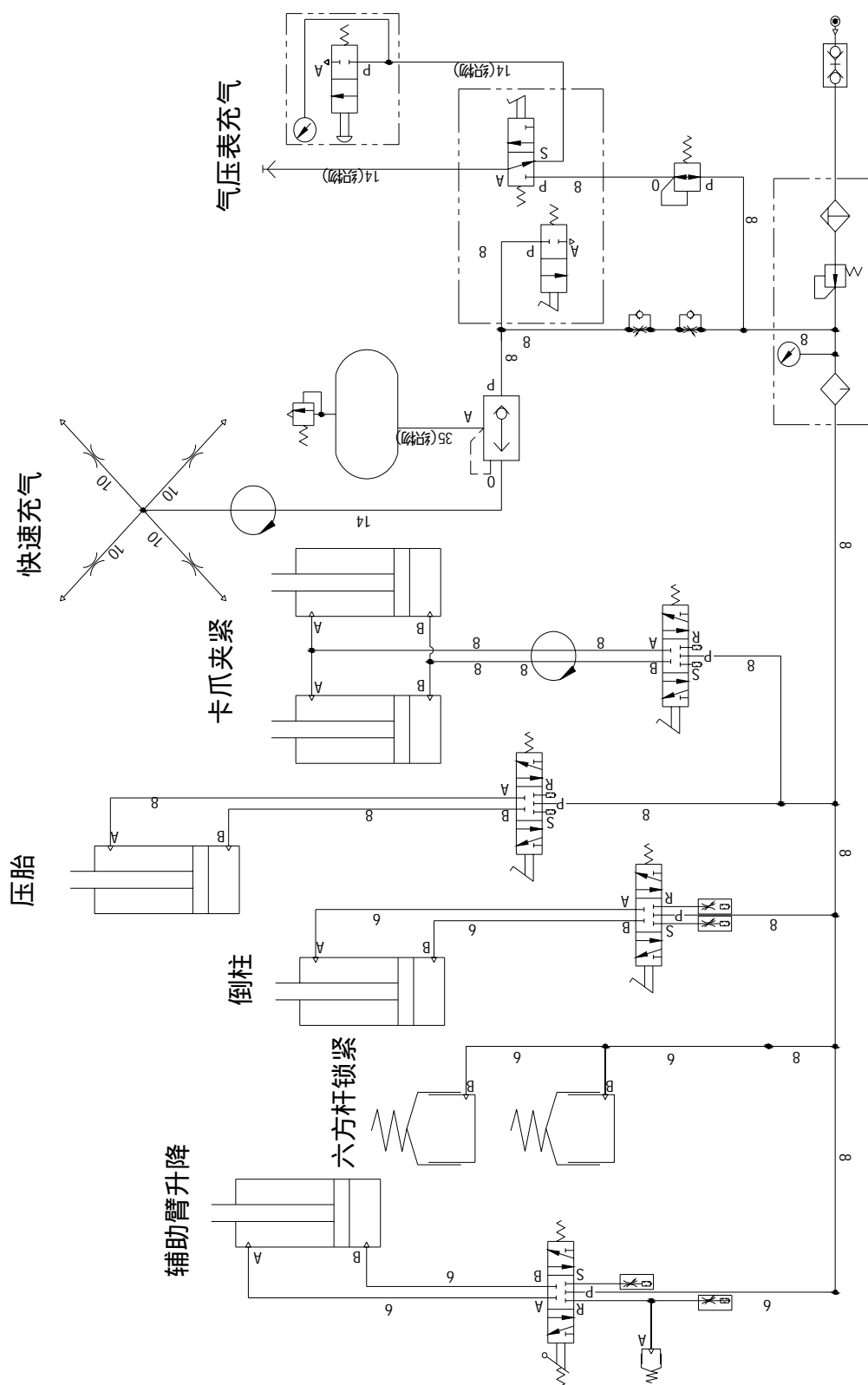


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Safety Precautions

- This manual is a necessary component of the product. Please review carefully.
- Keep the manual for later use when maintaining the machine.
- This machine can only be used for the designed purpose. Never use it for any other purpose.
- The manufacturer is not held responsible for any damage incurred by improper use or use for the purposes other than the intended one.

Before installing and adjusting the equipment, pay attention to the following:

- Read this manual and all other instructions for the equipment thoroughly. Modification to any components or parts, or use the machine for other purpose without either obtaining the permission from the producer, or observing the requirement of the instructions may lead to direct or indirect damage to the equipment.
- The installation and adjusting personnel should have a good understanding of electrical devices.
- The equipment can only be operated by qualified personnel with special training.
- The machine should be installed on the smooth ground.
- Keep the back panel 0.75M away from the wall for good ventilation. Enough room should be left on both sides of the machine for convenient operation.
- Do not put the machine in a place with high temperature or moisture, or near the heating system, water tap, air-humidifier or furnace.
- Do not install the machine near a window with sunlight. Protect the unit with a curtain or shield if necessary.
- Go through the accessory list carefully before installation. Should there be any questions please contact your dealer or Launch Tech Co., Ltd.

Main Structure

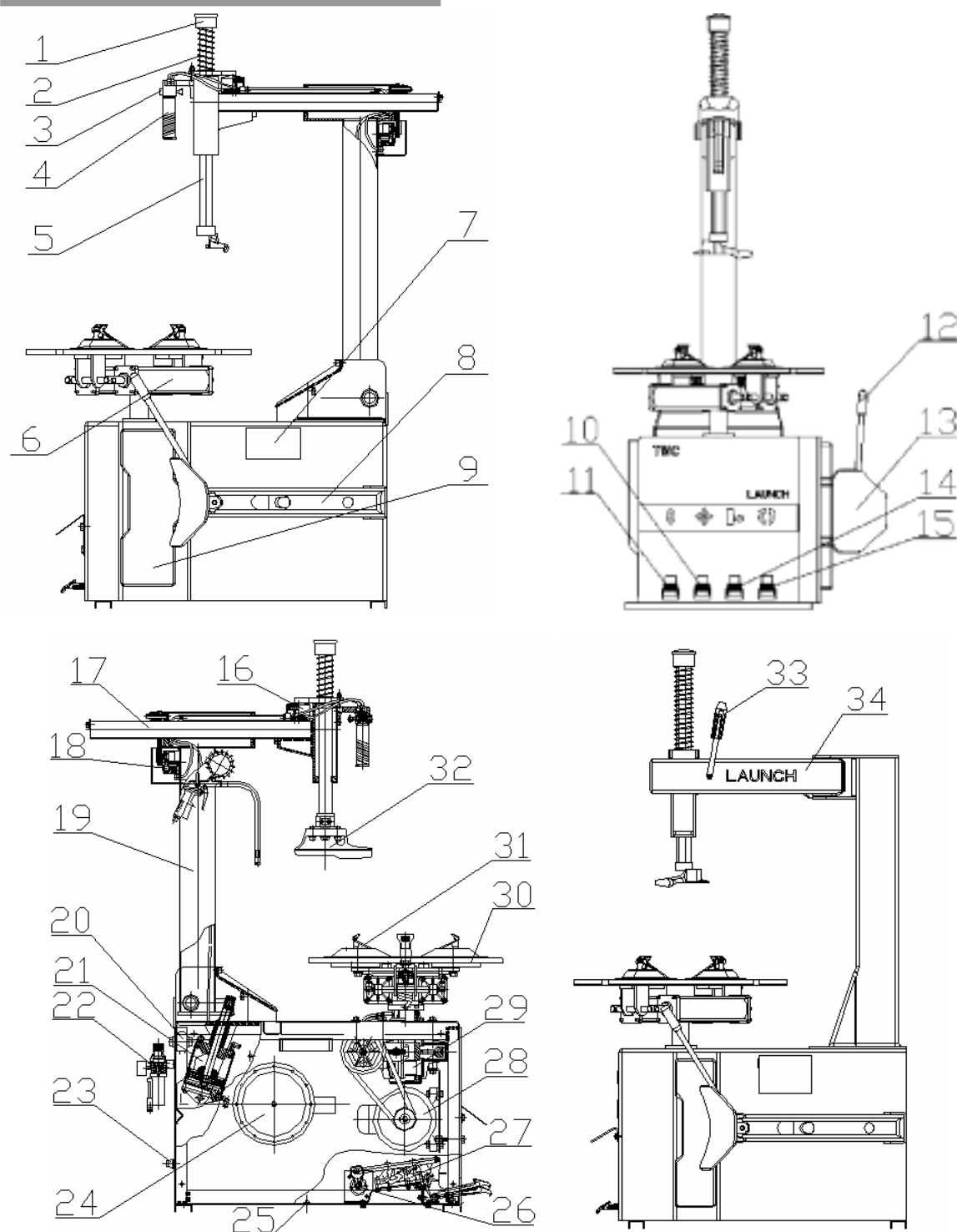


Fig.01

1. Cap 2. Return spring 3. Locking button 4. Locking handle 5. Hexagonal column 6. Clamping cylinder
 7. Lubricant box 8. Bead breaker arm 9. Rubber pad 10. Clamping cylinder pedal 11. Tilting post pedal
 12. Bead breaker handle 13. Bead breaker shoe 14. Bead breaker pedal 15. Turntable pedal
 16. Hexagonal locking cylinder 17. Horizontal arm 18. Horizontal arm locking cylinder 19. Post 20. Reducing valve
 21. Tilting post cylinder 22. Air pressure regulator, gauge and lubricator assemble 23. Outlet of wire
 24. Bead breaker cylinder 25. Ground wire 26. Motor power switch 27. Control valve 28. Motor 29. Gear box
 30. Turntable 31. Clamping jaw 32. Mount/demount head 33. Handle 34. Swing arm

Supplementary Arm

Right supplementary arm (fig.02)

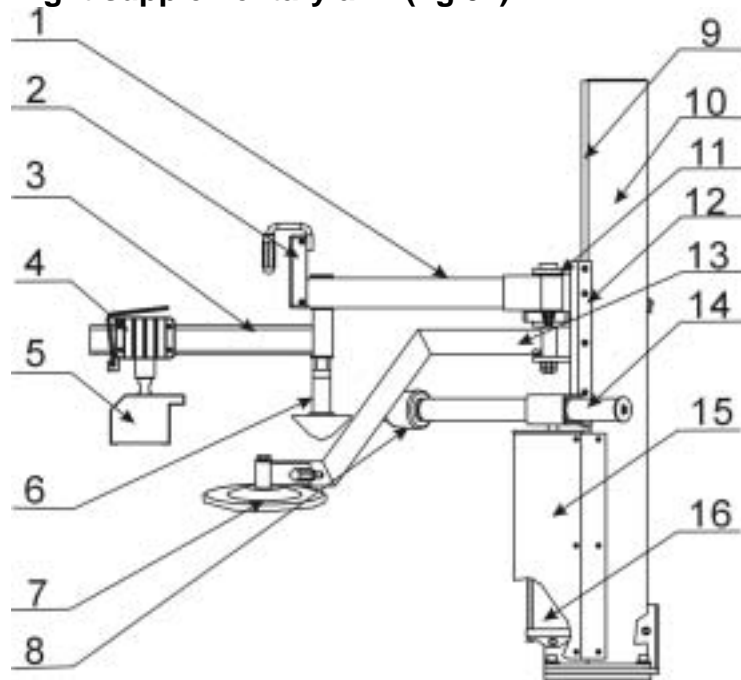


Fig.02

1. Back swivel arm
2. Control box
3. Fore swivel arm
4. Slider
5. Press block
6. Cone
7. Disk
8. Roller
9. Sliding guide
10. Post weldment
11. Sleeve on back swivel arm
12. Slide board
13. Disk arm
14. Roller arm
15. Cylinder hood
16. Lifting cylinder

Left supplementary arm (fig. 03)

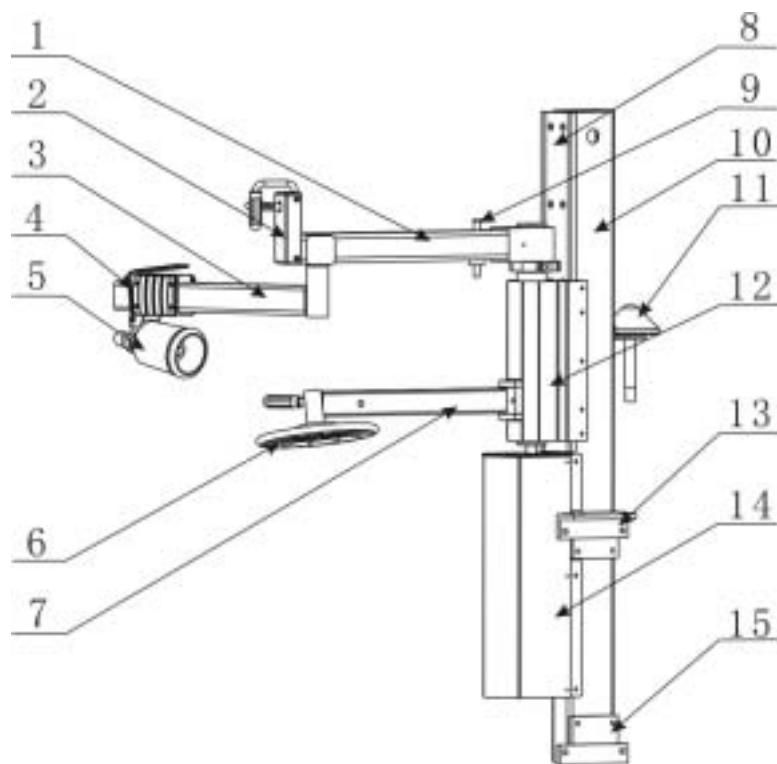


Fig.03

1. Back swivel arm
2. Control box
3. Fore swivel arm
4. Locking clip
5. Roller
6. Disk
7. Disk arm
8. Sliding guide
9. Spacer pin
10. Post weldment
11. Cone
12. Slide board hood
13. Upper carriage
14. Lifting cylinder
15. Bottom carriage

Tools

To ensure the correct installation and adjusting, please get the following tools ready:

Two adjustable wrenches, one set of box spanners, one pair of pliers, one set of screwdrivers, one multi-meter (for voltage measurement).

Installation

Unpacking

- Remove packing following the instructions on the package. Remove the packing materials and check the machine for possible damage or loss of accessories during transportation.
- Keep the packing materials out of the reach of children. Handle them in an appropriate way if the packing materials cause pollution.
- Remove the cabinet, tilting post, horizontal arm and accessory box fitted on the bottom plate and put them in safety place.

The parts of left supplementary arm assembly(fig.04)



Post and swivel arm



Disk



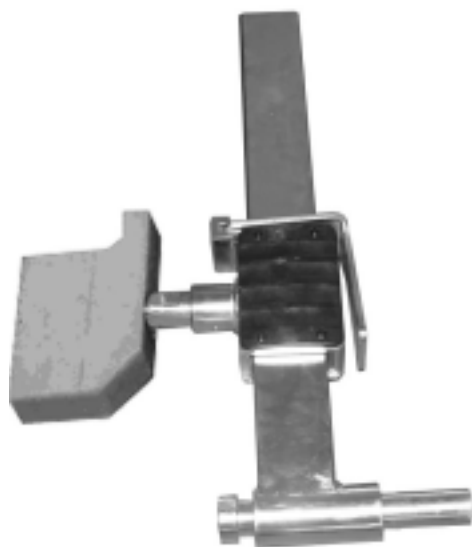
Cone

Fig.04

The parts of right supplementary arm assembly (fig.05)



Roller



Fore swivel arm

Post, swivel arm and cylinder
Fig.05

Installation



Caution:

Special anti-rust oil applied on the delicate parts may attract dust. Clean it when necessary.



Disk



Cone

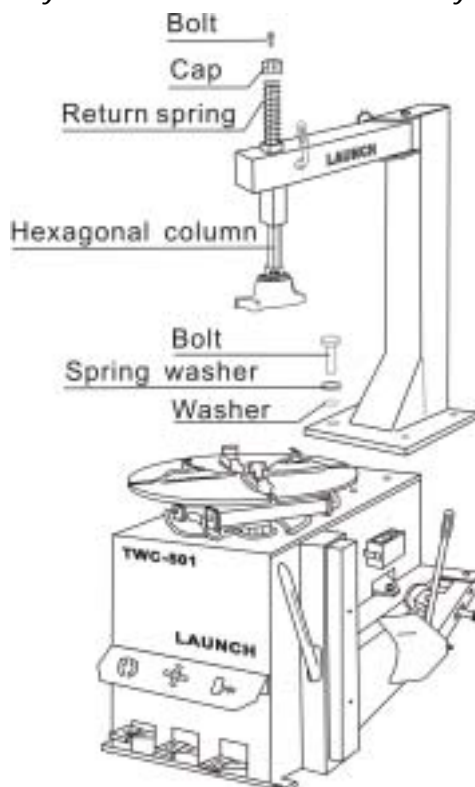


Fig.06

Installation of Post (For tyre changer with Swing

arm) (Fig.06)

- Unscrew the bolts on the side board of cabin to remove the side board.
- Mount the post, return spring, hexagonal column, cap and related parts on the cabin, fasten all bolts.
- Mount the side board on cabin, fasten bolts.

Installation of Tilting Post (for tyre changer with tilting post) (Fig.07)

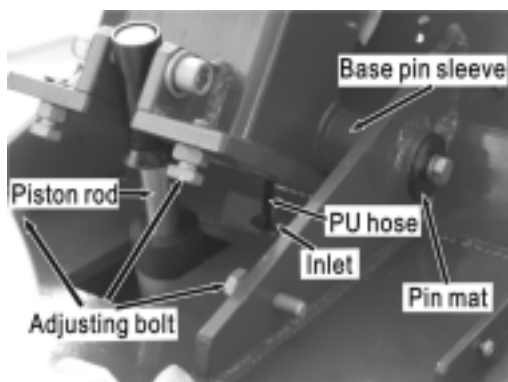


Fig.07

- Place the cabinet at the right position.
- Remove the front board and bottom rotation shaft of tilting post with appropriate tools.
- Apply lubricant on bottom rotation shaft and its sleeve.
- Lift up the tilting post. Run the PU hose through inlet on the cabinet, and position the tilting post onto the bottom seat.
- Align the round holes on the bottom rotation sleeve and the side boards of the bottom seat, then knock the rotation shaft through holes with a hammer. Use a wood block between hammer and the shaft for protection when knocking. Fit gaskets on both sides of the shaft before fastening screws.
- Remove the bolt and nut from the piston rod of the tilting post cylinder. Get the bolt through round holes on side boards of the tilting post and the piston rod. Lock it with the locking nut.
- Adjust four adjusting bolts to make the tilting post on the right position (See Tilting Unit)
- Mount the front board to original position.

Installation of Left Supplementary Arm

Take out the left supplementary arm assembly, remove the bolts and washers (fig.08), mount them as in fig.09.

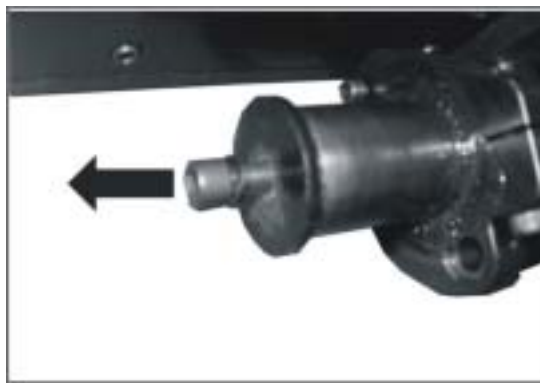


Fig.08

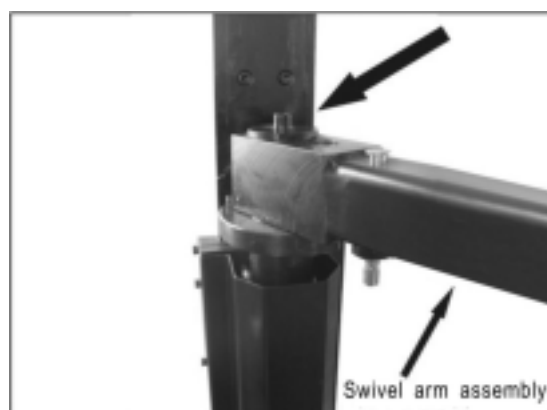


Fig.09

Remove the bolts and washers on the left side of cabin, place the unit (fig.09) on the seat vertically, fit washers and fasten them with bolts.(fig.10)

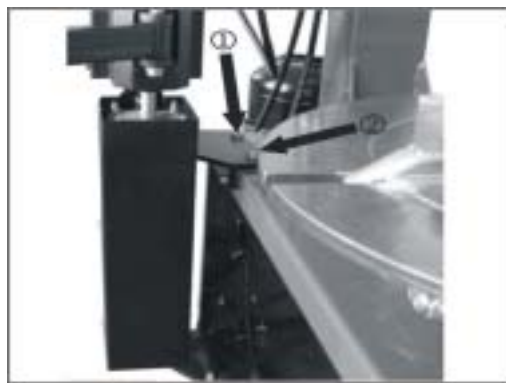


Fig.10

- Take out the disk and relevant fastening parts, brush lubricant on the fastening parts, then assemble them as in fig.11. Finally insert the pu hose out from the bottom of the supplementary arm unit into the cabin through the small hole on left plate. (fig.12)



Fig.11



Fig.14

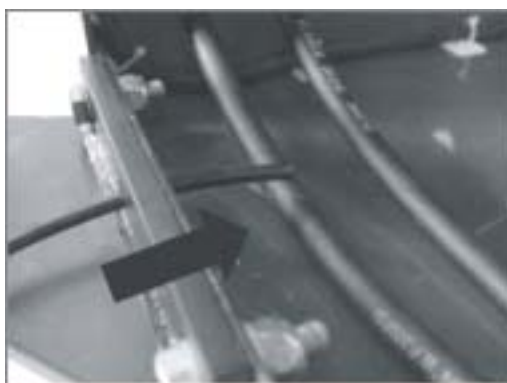


Fig.12

- Take out the cone, and assemble it with the fore swivel arm as in fig.13.



Fig.13

Right Supplementary Arm

- Take out assembly of back swivel arm, post and lifting cylinder, remove the hood(fig.14). Then take out disk assembly and relevant fastening parts, apply lubricant on the fastening parts, assemble them as fig.15, finally mount the hood.

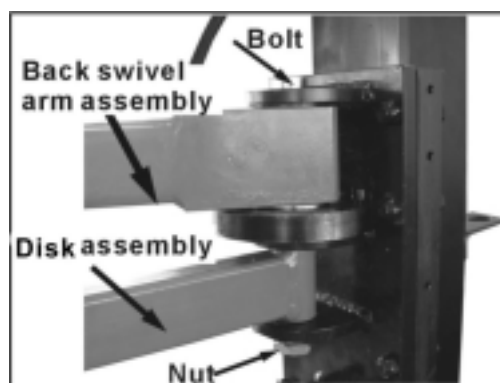


Fig.15

- Remove the bolts (fig.16) and washers on right side plate of cabin, place the unit (fig.15) on the seat vertically,
- Fit washers and fasten them with bolts. Get the PU hose out from the bottom of the supplementary arm unit into cabinet through small hole on its right side plate.

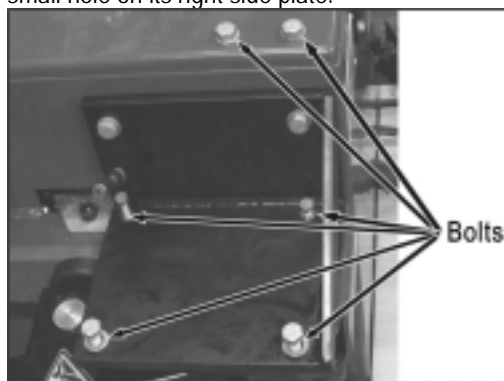


Fig.16

- Take out pressure bar and relevant fastening parts, brush lubricant on the parts, then assemble them as in fig.17.

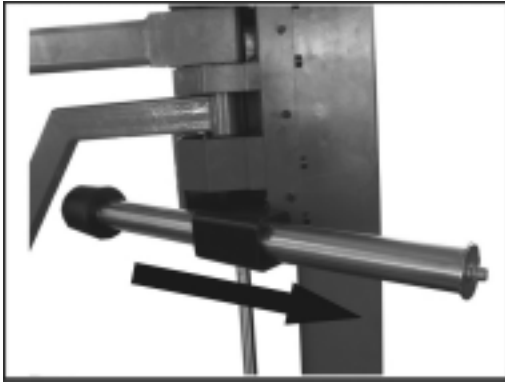


Fig.17

- Take out fore swivel arm unit and relevant fastening parts, apply lubricant on the parts, then assemble them as in fig.18.

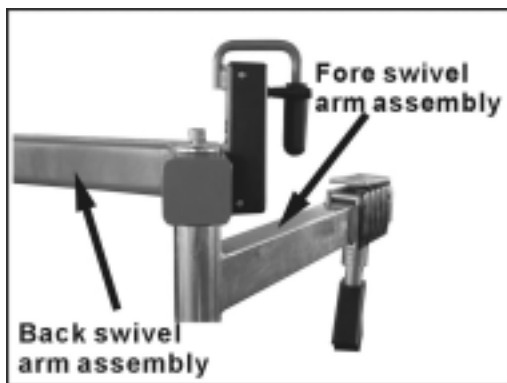


Fig.18

- Take out the cone, assemble it on fore swivel arm as in fig.19.

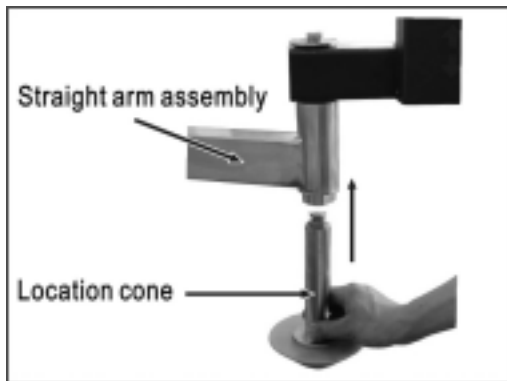


Fig.19

Air Connections

- Remove side plate of cabinet.
- Find PU hoses out from the supplement arm unit and insert it into the reducer union. (fig.20). For the tyre changer with tilting post, get the PU hose out from the tilting post into another reducer union (fig.21).

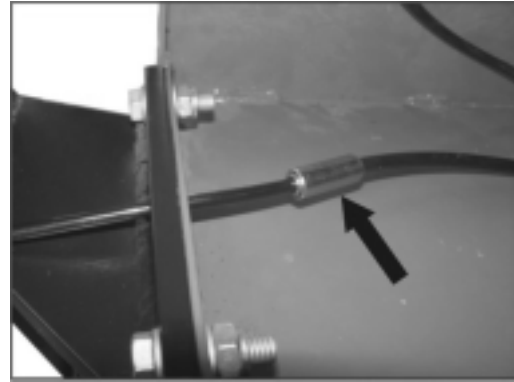


Fig.20

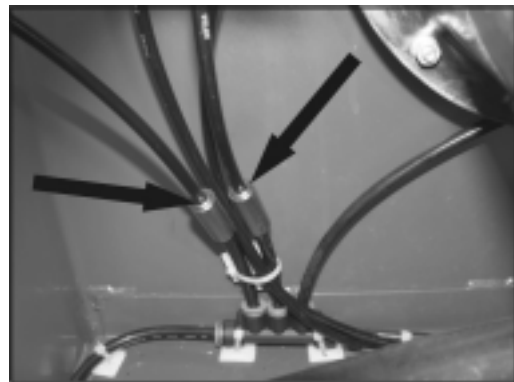


Fig.21

- For the tyre changer with fast inflation, take out rubber hose and connect it with deflating valve as fig.22, get the other end of hose out cabin through the hole on back plate.

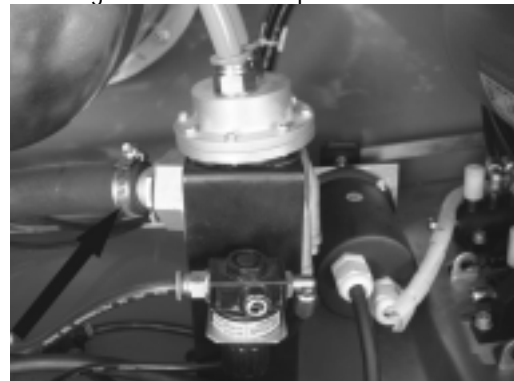


Fig.22

- Mount the side plate of cabinet to its original position.

Installation of Air Tank

- Fix the air tank on the cabinet with two sets of bolts, nuts, spring washers and flat washer (Fig. 23).
- Connect the rubber hose with the joint on the air tank and fasten the screw of the hose hoop as figure 24.

Installation of Barometer

Install the barometer box on one side of the tilting post according to figure 25.



Fig.23

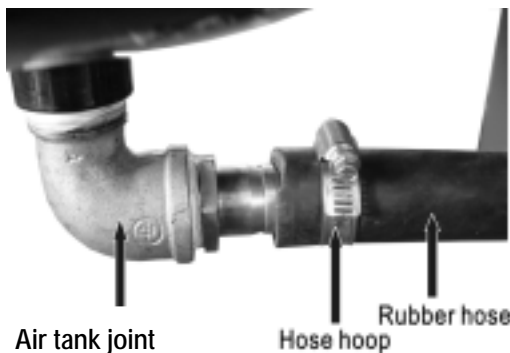


Fig.24



Fig.25

For the inflating gun, use hose to connect the inflating gun with the outlet(fig.26) of cabin.(fig.27)



Fig.26

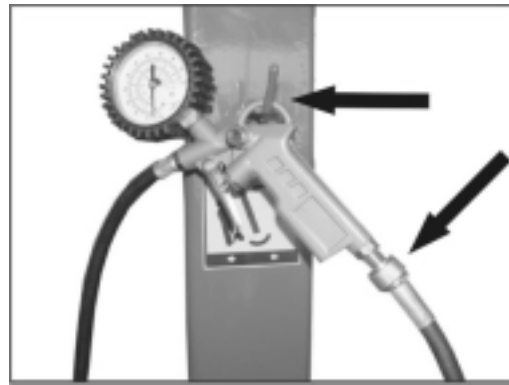


Fig.27

Transport

It is advisable to transport the machine with fork lift vehicle.

- Such movable parts: tray assembly, Bending arm assembly, straight arm assembly, tilting post and horizontal arm must be fastened to the cabinet tightly with rope to avoid damages to machine and injuries to people during transportation.
- Avoid excessive tilting in transportation.
- Don't drive the fork lift vehicle carrying the equipment too fast.
- Try to keep the machine at the lowest position and make sure it won't overturn in transportation (pay attention to the position of the gravity center).

Positioning

The place to install the machine should be in accordance with safety regulations:


- The machine should be installed in a place close to the main power and compressed air source.
- Install the machine on smooth concrete ground or other ground with hard flooring. 4 sets of anchor bolts(M10×150) can be used to fasten the machine onto the ground strongly to avoid vibration and noise.
- Leave enough space around the machine for proper operation and maintenance. The space should be no less than 1M in front and on the two sides of the machine and 0.5M behind it.
- If the machine has to be installed outdoors, a protective shelter should be built.
- Keep the machine away from flammable gases.

Note:

For the safety and proper operation, keep the machine at least 0.75M away from any wall.

Power and Air Connections

- Before installation, check if the power source and the compressed air are in accordance with the specifications on the nameplate. Any electrical connection should be done by the specially trained technician.
- The power socket should be at a place within the sight of the operator. The advisable height is between 0.6 – 1.7M.
- In case the main voltage is not stable, a voltage stabilizer should be used between power source and the machine.
- The machine should be well grounded.

 **The tyre changer is not equipped with overload protection. Please connect power according to the circuit diagram included in the User's manual. Otherwise, the manufacturer will not be responsible for any accidents.**

Adjusting







Attention:

Make sure that the power supply and air source in accordance with the requirements.


Initial Operation

Note:






The four pedals must be kept at the original position.

- Press down the pedal " " to turn the turntable clockwise;
- Lift the pedal " " to turn the turntable counter-clockwise;
- Press down pedal " " to open bead breaker; release it to restore;
- Press down pedal " " to open the jaws on the turntable; pedal again to move them inward;

Tyre changer with tilting post

- Press down pedal " ", the tilting post will tilt backward. Pedal it again to restore the tilting post upright.

Clamping Unit of the Jaws

- The position of the jaw (Fig.28) on the turntable is controlled by the movement of the piston rod, which in turn is controlled by pedal " ". There are three levels for pedal " ". When pedal " " is placed on high, the piston rod will move inward and pull the jaws moving inward until the minimum.
- When pedal " " is placed on low, the piston rod will move outward and pull the jaws moving outward until the maximum.
- While the jaws in motion inward, press pedal " " lightly to keep it at the middle level, the jaws will stop in response. Do this function flexible to get the jaws anywhere between the maximum and minimum for different wheels. (For tyre changer with tilting post)

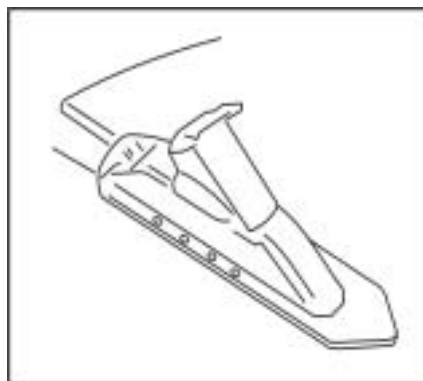


Fig.28

- *The gearing chain: The gearing chain in this machine is made up of motor, pulley, worm reducer, turntable and so on (Fig. 29).*

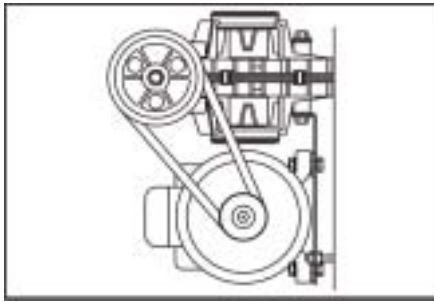


Fig.29

- *The motor RPM is about 1400. The ratio of speed is 200. The rotary direction is controlled by pedal "⌚" (Fig.29). Depress the pedal to make the turntable rotate clockwise. Release the pedal to stop the turntable. Lift up the pedal "⌚" with foot, the motor and the turntable will both turn counter-clockwise. If contrary to above, change the phase wire of the motor. Connect the ground wire to ground. In the operation, the turntable generally turns clockwise, only when the operation is obstructed occasionally, it needs to turn counter-clockwise.*

Bead Breaker

- The bead breaker is on the right side of the cabinet. As the procedure requires, press down pedal "⌚" to start the bead breaker cylinder, the piston rod will pull the bead breaker towards the cabinet, with magnitude around 14075N. Release pedal "⌚", the bead breaker will retract.
- The bead breaker is able to swing within a certain range. In case the range of swing is not appropriate, adjust the nut (Fig.30) at the right end of the piston rod.

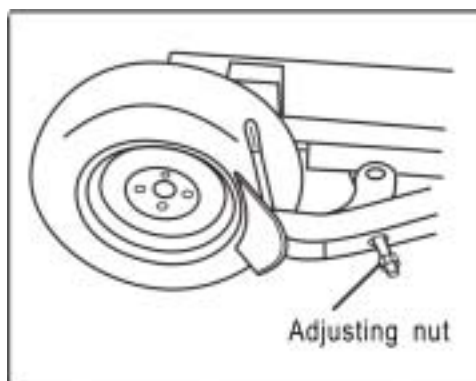


Fig.30

Hexagonal Column System (with tilting post)

- The Hexagonal column (Fig.31) can move up and down freely while the hexagonal column locking handle downwards. While the hexagonal column locking handle rolled 120° or so, the cam connected with the handle will lift the locking board to lock the Hexagonal column. If it can't realize, you can adjust the bolt's position to arrive at it.

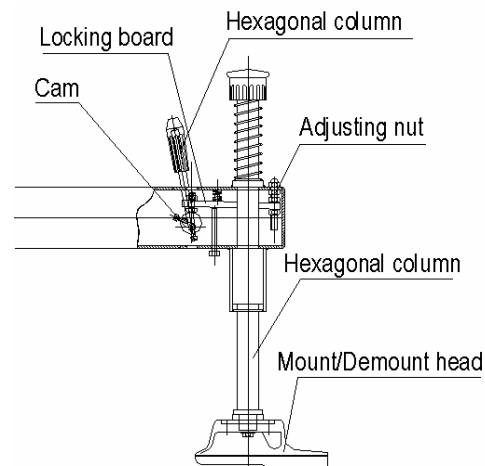


Fig.31

Air Pressure Regulator, Gauge and Lubricator Assembly

- As shown in Fig.32, there is a button on the regulator. When pulled up, the pressure can be increased or decreased by turn it clockwise or counter-clockwise. After adjusting the operation pressure, press the button down to lock it.
- The air cleaner works to filter the water and impurity in the compressed air. When water and impurities run beyond the red line, turn open the draining valve to release them.
- The lubricator is used to add a certain amount of lubricant into gas for the moving parts in the cylinder and regulator. Depress pedal "⌚" or "⌚" 3 ~ 5 times, a drop of lubricant will fall into the cup in the regulator. If it does not happen, the adjusting screw need to be adjusted.

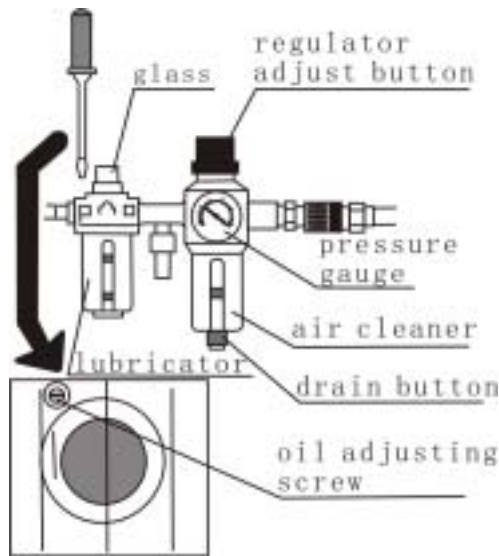


Fig.32

Mount / demount Head

Checking

- Mount a 13 inch diameter aluminium alloy rim (preferably new) onto the turntable.
- Lower the mount / demount head onto the rim and lock.
- By means of the appropriate gauge kit, check measurements as indicated in fig.33 (for mount/demount head with roller) and fig.34 (mount / demount head with insert).

Calibration

- Loosen all screws securing the mount / demount head.
- Lower the mount / demount head onto the rim

and lock.

- Finger-tighten screws A3-A4(fig.37 and fig.38) in order to turn the mount / demount head and obtain the correct position.
- Tighten screws A1-A2 (fig.35, 39 mount/demount head with roller; fig.36, 40 mount / demount head with insert) to tilt the mount / demount head and obtain the correct position and then finger-tighten screw B.
- Unlock and raise the hexagonal column, then lower it onto the rim and lock again.
- First tighten screws A1-A2-A3-A4 in torque of 50Nm and check by means of gauges that the measurements remain the same.
- Lastly, tighten screw B to a torque of 50Nm and carry out checks once again with the gauges.

Periodic checks

After use of the machine for half a year, do regular check to ensure correct measurements as stated in **Checking**. If they are incorrect proceed as follows:

- Check that the screws (A1-A2-A3-A4-B) are tightened properly.

Calibration.

- If measurement 2 (roller, fig.35) or measurement 1 (insert, fig.36) are changed, the cause may be that nut i(fig.42) has loosened.
- Tighten or loosen nut i to increase or reduce lifting range.
- If measurement 2 (fig.370) has changed, this may be due to loose nut e(fig.42) or deformation of locking plate c (fig.42).in both case simply adjust the nut, tighten or slacken to increase or reduce movement range. Secure nuts with minimum tightening torque 70Nm.

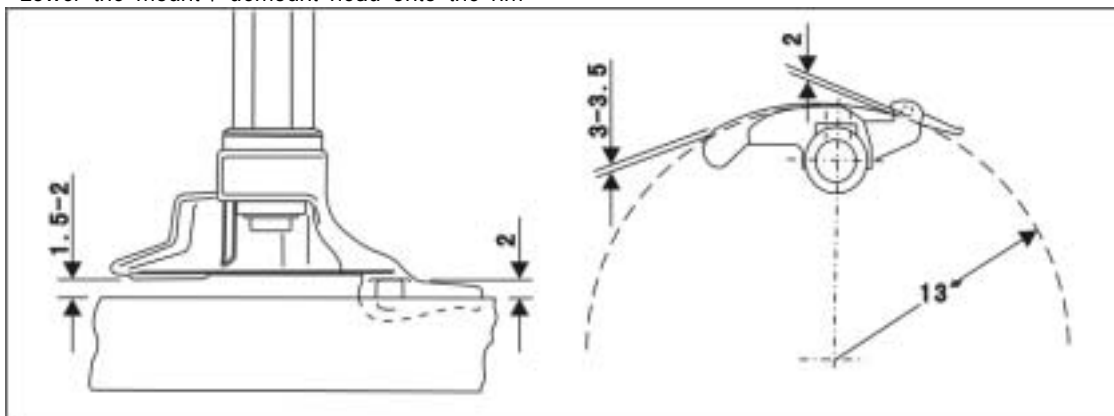


Fig.33

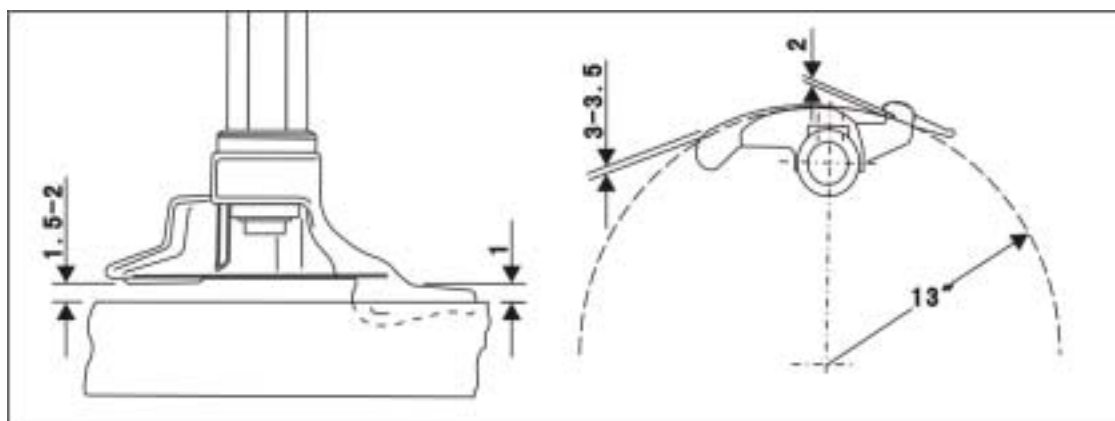


Fig.34

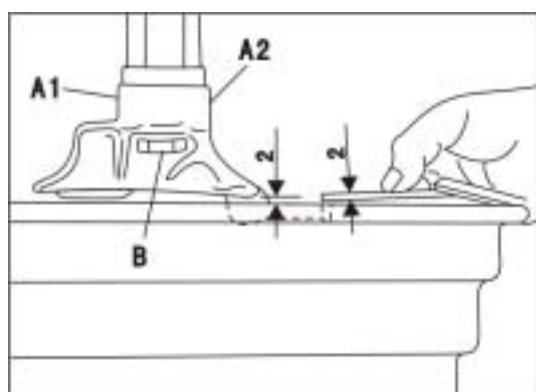


Fig.35

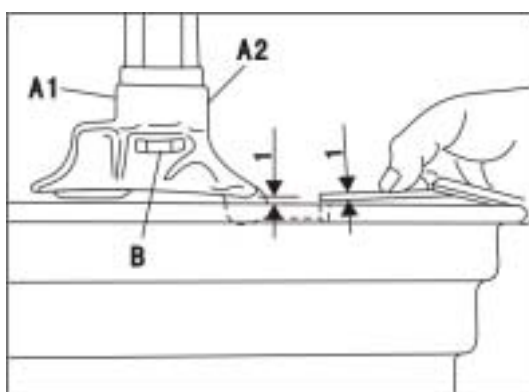


Fig.36

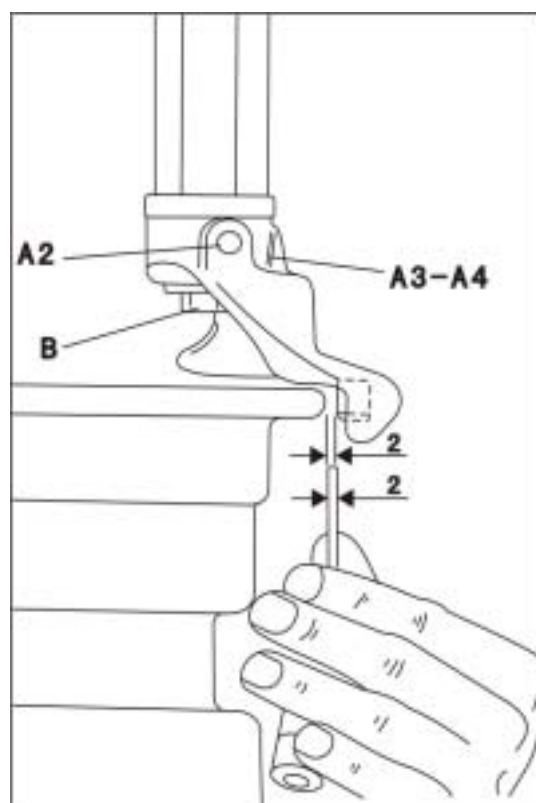


Fig.37

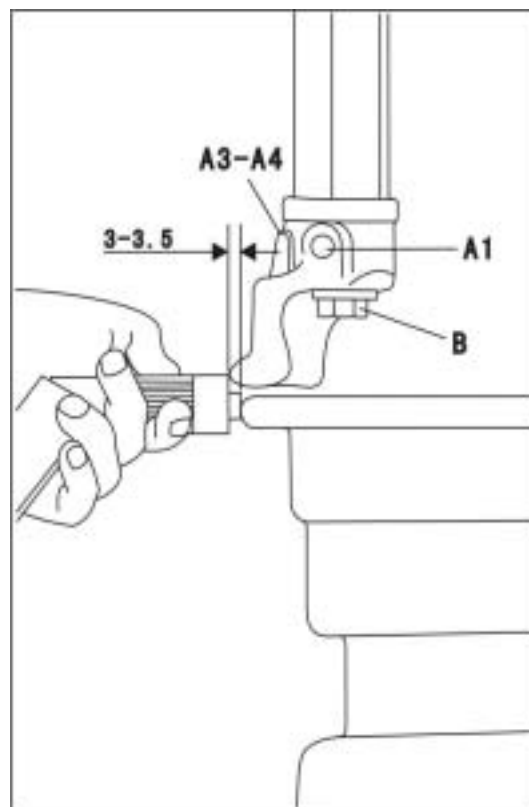


Fig.38

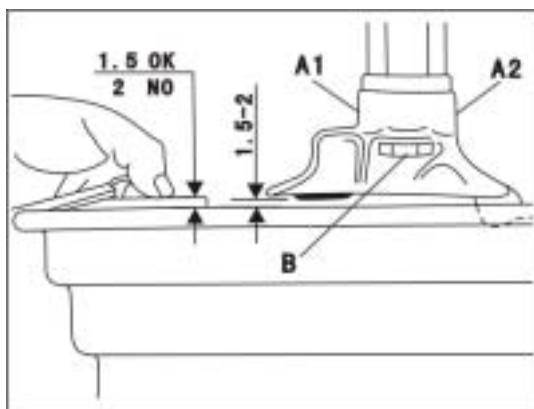


Fig.39

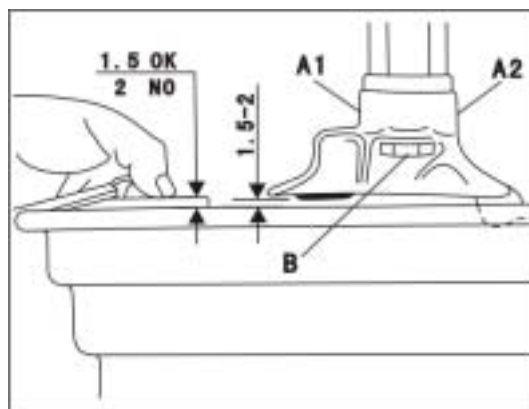


Fig.40

Tilting Post Unit

- The tilting post is under the control of tilting cylinder in the cabinet, so that the column can tilt backward in order to remove the tyre from the turntable easily, and restore to upright position (the working position).
- The tilting cylinder is controlled by pedal "1". When it is pressed, the tilting post tilts backward; and when it is pressed again, the column restore to the upright position (Fig.41).
- If tilting speed is too fast or too slow, adjust the throttles to change speed. If the speed is too fast, fasten the screw on throttle mouth. If too slow, loose the screw. There are two throttles, of which one is for tilting backward while another one is for back to upright position.

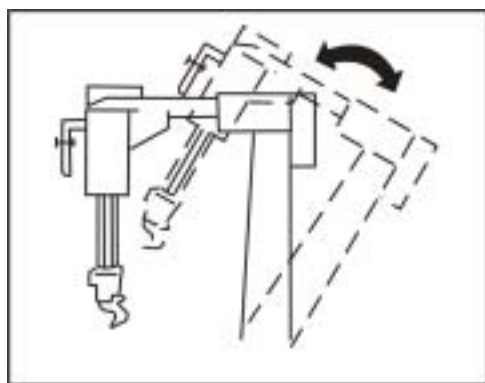


Fig.41

- There are two bolts on the base plate of the tilting post to adjust position of the tilting post. Also, there are two bolts on the side plates of the seat for limiting the horizontal position of the tilting post.

Horizontal Arm and Hexagonal Column Clamping Unit

- As shown in the figure 42, use (air valve) locking button J on the handle (k) to control movement of the clamping cylinder. When thumbed down the button, the external shells of clamping cylinders (b and g) are pushed out. Their external shells touch locking boards (c and h). The tilting of the boards will lock the horizontal arm and the hexagonal column.

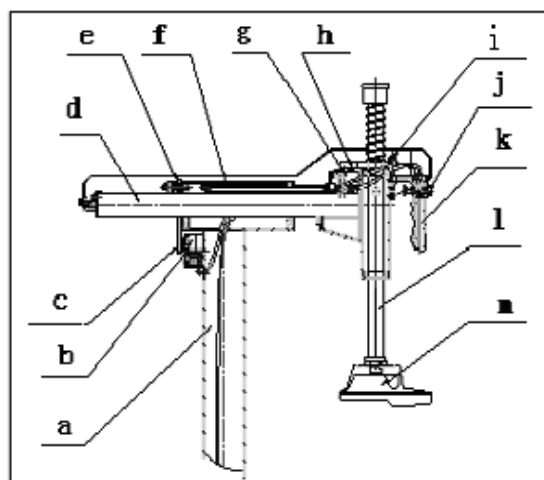


Fig.42

- When the button is pressed out, the clamping cylinder (b and g) will be drawn back. The tilting boards (c and h) will relax to loose the horizontal arm and the hexagonal column. When it doesn't work, nuts (e and i) can be tightened or loosened for adjustment.

Parts List

This list is only for the reference of the maintenance personnel. The manufacturer will not be held responsible for any use other than the designed purpose.

In case any damage occurs, please contact your dealer or LAUNCH with the corresponding codes in the list.

Exploded view of TWC series on page 51-62.

Note:

The wearing parts are indicated by *.

No.	Description
1	Pedal mat
2	Hexagon socket screws M6×12
3	Hexagon socket screw M6×50
4	Side plate
5	Cabin
6	Power cable clip
7	Power cable
8	Rubber pad
9	Hexagon socket screw M8×25
10	Flat washer φ8
11	Hexagon bolt M8×25
12	Spring washer, light type φ8
13	Nut M8
14	Hood
15	Pedal screen printing diagram
101	Elbow joint
102	Clamping cylinder
103	Stay stud
*104	O Sealing ring φ65×2.65
105	Back cover of clamping cylinder
106	Locking nut M8
*107	Y Sealing ring 28×20×5
108	Clamping cylinder piston
109	Front cover of clamping cylinder
110	Plain washer φ12
111	Clamping cylinder piston
112	Spring washer light type φ12
113	Clamping cylinder assembly
114	Clamping cylinder piston
115	Working deck cushion cover
116	Hexagon Bolt M16×40
117	Working deck washer
118	Turntable
119	Clamping jaw
120	Sliding mouse

No.	Description
121	Sliding plate
122	Master jaw body
123	Master jaw
124	Working deck taper sleeve
125	Cover of pin
126	Plain washer φ12
127	Spring washersφ12
128	Hexagon Bolt M12×80
129	Connecting rod units
130	Square rotary body
131	Square rotary mat
132	Circlip for shaft φ65
133	Air compressing hose
134	Tee coupling
135	Circlip for shaft φ12
136	Rotary working deck assembly
201	Bead breaker cylinder body
202	Nut M6
203	Spring washersφ6
204	Plain washersφ6
205	Hexagon bolt M6×16
206	Lock nut M16
207	Plain Washers φ16
208	Bead breaker cylinder piston
209	O Sealing ring φ16×2.65
210	High & low lip ring
211	O Sealing ring φ180×3.55
212	Bead breaker cylinder cover
213	Set screw
214	O Sealing ring φ19×2.65
215	Bead breaker cylinder pressure mat
216	Plain Washersφ16
217	Lock nut M16
218	L Elbow coupling
219	Bead breaker cylinder assembly
220	Shaft arm pin

No.	Description
221	Plain washer $\phi 22$
222	Circlip for shaft $\phi 22$
223	Tension spring
224	Guide Roller
225	Plain washer $\phi 8$
226	Spring washers $\phi 8$
227	Hexagon Bolt M8 \times 16
228	Universal joint
229	Plain Washers $\phi 16$
230	Bead breaker arm
231	Bead breaker handle cover
232	Bead breaker shoe
233	Hexagon socket screw M12 \times 90
234	Lock nut M12
*235	Bead breaker shoe jacket
236	Bead breaker cylinder piston rod
301	Cap
302	Return spring
303	Lock plate
304	Hexagonal column
305	Adjusting lever
306	Lock stem casing
307	Eccentric wheel
308	Hexagon socket screw M6 \times 16
309	Hexagon socket set screws with flat end
310	Lock handle of hexagonal column
311	Cross recessed pan head screws M3 \times 10
312	Spring
313	Rotary handle bar
314	Rotary bar
315	Plain washer $\phi 18$
316	Locking nut
317	Swing arm
318	Post weldment
319	Hexagon Bolt M12 \times 60
320	Locking nut M12
*321	Cushion mat
322	Metal mount/demount head
323	Mount/demount head washer

No.	Description
324	Hexagon socket set screws with flat point M10 \times 25
325	Gasket
326	Thin nut M10
327	Combined acorn nut M10
328	Locking nut M10
329	Screw mandrel M10 \times 90
330	Front cover of swing arm
331	Hexagon bolt M8 \times 80
*332	Mount/demount head slide block
*333	Mount/demount head mat
334	Mount/demount head roller
335	Pin of Mount/demount head roller
401	Drive plate
402	Hexagon socket set screws with cone point M8 \times 12
403	Male connector
404	Male connector
405	Pneumatic spool unit
*406	O Sealing ring $\phi 60 \times 2.65$
407	Pneumatic valve pocket
408	Hexagon socket screw M6 \times 20
409	Hexagon Bolt M10 \times 50
410	Spring washers $\phi 10$
411	Taper pins A6 \times 15
412	Upper cover of worm case
413	Worm bearing
414	Angular contact bearing
415	Casing of reduction gear box
416	Key A14 \times 40
417	Worm wheel
418	Lower cover of worm case
419	Lock nut M6
420	Sealing cover units of reduction gear box
421	O Sealing ring $\phi 34.5 \times 3.55$
422	Tapered roller bearing
423	Worm
424	FB Sealing ring 20 \times 35 \times 7
425	Key A6 \times 21
426	Plain washer $\phi 4$
427	Lock nut M14

No.	Description
428	Pulley of speed reducer
429	TWC-501 gear reducer assembly
430	Rotary pneumatic valve assembly
431	V Vee belt A-28'
432	Hexagon Bolt M8×25
433	Motor plain cushion
434A	Motor pulley 60Hz
434B	Motor pulley 50Hz
435	Plain key C8×30
436	Hexagon bolt M10×35
437	Motor cushion mat
438	Hexagonal bolt M8×80
439	Motor support
440A	Motor ~230V/50Hz 1.1kw
440B	Motor ~230V/60Hz 1.1kw
440C	Motor ~220V/50Hz 1.1kw
440D	Motor ~220V/60Hz 1.1kw
440E	Motor ~110V/60Hz 1.1kw
440F	Motor ~110V/50Hz 1.1kw
441	Nozzle of rotary valve
442A	Capacitance 125V/800μF (110V/60Hz)
442B	Capacitance 50V/200μF (220V/50Hz)
501	Thread tee joint
502	L Elbow coupling
503	Muffler
504	Pentagram valve units
*505	O Sealing ring φ11.8×4
506	Pentagram casing
507	Hexagon Bolt M6×25
508	Lock nut M6
509	Cross recessed pan head screws M4×35
510	Plain washer φ4
511	Nut M4
512	Cam hood
513	Tapping screw ST2.9×4.5
514	Cam body
515	Cam spring sheet
516	Steering switch cover
517	Motor master switch

No.	Description
518	Cross recessed pan head screws M4×16
519	Transfer shift bar
520	Pedal support units
521	Reed type support
522	Pedal release spring
523	Reed type
524	Transfer shift connecting rod
525	Hexagon bolt M8×55
526	Cam connecting rod
527	Pedal casing
528	Locking nut M8
529	Transfer shift pedal
530	Pentagram valve pedal
531	Pedal bearing
532	Pedal assembly
601	Pedal mat
602	Hexagon socket screws M6×12
603	Hexagon socket screw M6×50
604	Side plate
605	Cabin
606	Power cable clip
607	Power cable
608	Rubber pad
609	Hexagon socket screw M8×25
610	Flat matφ8
611	Hexagon bolt M8×25
612	Spring washer, light type φ8
613	Nut M8
614	Hood
615	Pedal screen printing diagram
701	Cap
702	Return spring
703	Plain washer M6
704	Hexagonal column
705	Locking board
706	Lock cylinder
707	T coupling
708	Sleeve
709	Hexagon socket screw M6×35
710	Air compressing hose
711	Locking handle units

No.	Description
712	Cross recessed countersunk head screws M6×16
*713	Cushion mat
714	Hexagon socket set screws with flat point M12×12
715	Metal Mount/demount head
716	Mount/demount head mat
717	Hexagon socket set screws with flat point M10×25
718	Piston of cylinder of tilting post
719	Horizontal arm
720	Rubber board
721	Hexagon bolt M8×16
722	Post weldment
723	Back locking board
724	Self-locking nuts M12
725	Pull-out piece spring
726	Hexagon socket screw M6×45
727	Lock cylinder cover
728	Lock cylinder body
729	Sealing mat
730	L Elbow coupling
731	Clamping cylinder assembly
732	Tilting post cylinder
733	Column bottom rotating shaft
734	Axle pin mat
735	Spring washer φ10
736	Hexagon bolt M10×25
737	Nut M10
738	Hexagon Bolt M12×70
739	Front cover of tilting post cylinder
740	Tilting post cylinder body
741	Cylinder stay stud
742	Back cover of tilting post cylinder
743	Locking nut M8
744	Hexagon Bolt M12×120
745	Casing
746	Sleeve of shaft
747	Buffer block
748	Cushion mat 2
749	Cylinder piston lever
750	Cushion mat 1

No.	Description
751	Cushion base
752	Thin nut M12
*753	Slide
*754	Insert
755	Roller
756	Roller pin
801	Thread T connector
802	Thread connector
803	Muffler
804	Five-way valve body
*805	O Sealing ring φ11.8×4
806	Five-way valve casing
807	Hexagonal bolt M6×25
808	Locking nut M6
809	Cross recessed pan head screws M4×35
810	Plain washer φ4
811	Nut M4
812	Cam hood
813	Tapping screw ST2.9×4.5
814	Cam body
815	Cam spring sheet
816	Steering switch cover
817	Motor power switch
818	Cross recessed pan head screws M4×16
819	Transfer shift bar
820	Pedal support units
821	Reed type support
822	Pedal release spring
823	Reed type
824	Transfer shift connecting rod
825	Hexagon bolt M8×55
826	Cam connecting rod
827	Pedal casing
828	Locking nut M8
829	Transfer shift pedal
830	Five-way valve pedal
831	Pedal bearing
832	Pedal assembly
901	Roller assembly
902	Adjustable silencer

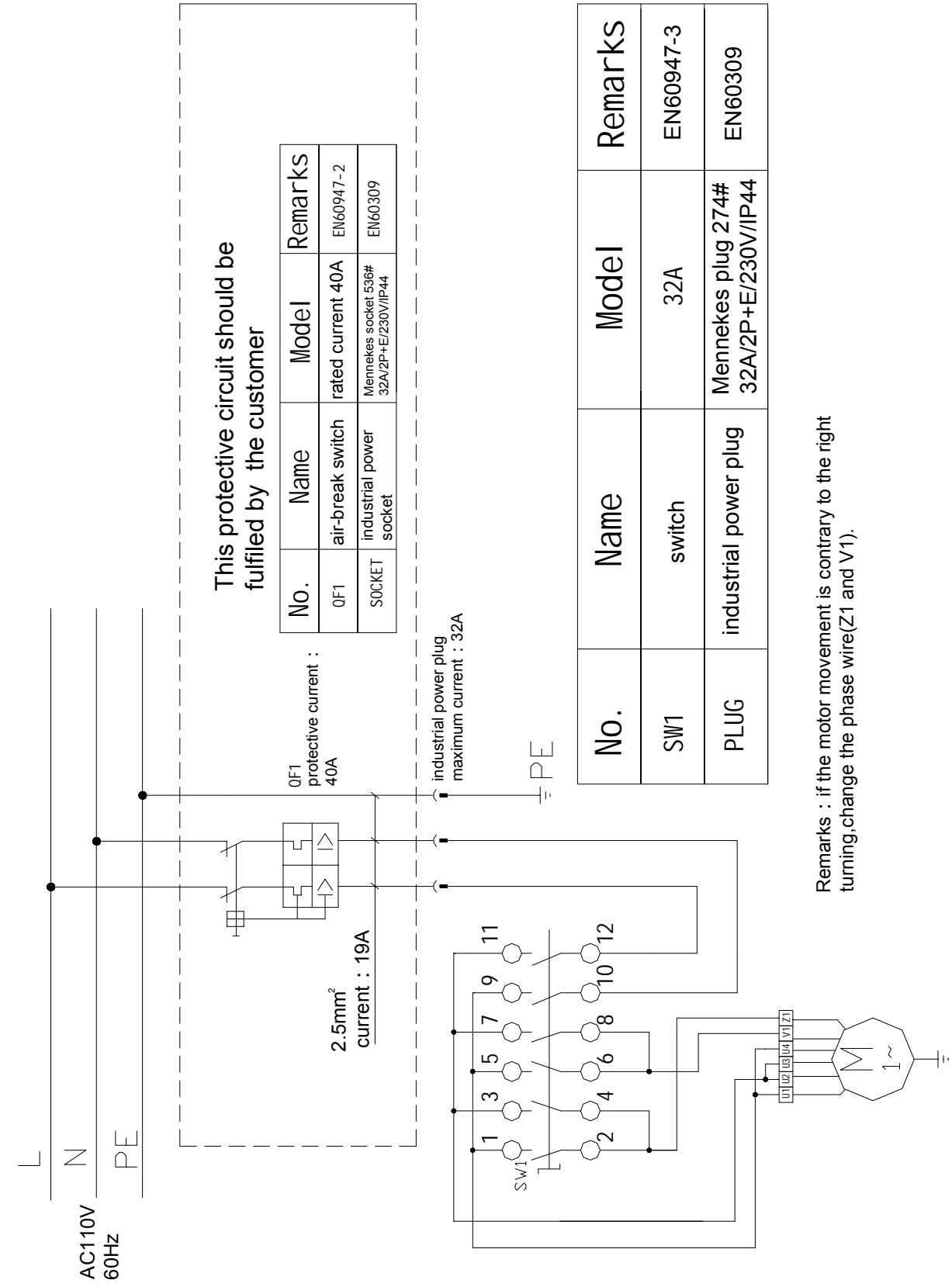
No.	Description
903	Five-way reversing valve
904	Quick L end joint
905	Limit washer on swivel arm
906	Hexagon socket screw M10X16
907	Back swivel arm assembly
908	Quick three-way end joint
909	Adjustable silencer
910	Spring seat of back swivel arm
911	Spring on back swivel arm
912	Washer of spring seat
913	Spring washer
914	Hexagonal socket bolt M8X16
915	Washer 8
916	Small washer of roller
917	Roller
918	Slide board hood
919	Washer of back swivel arm
920	Washer of back swivel arm
921	Hexagonal socket screw M8X20
922	Washer on back swivel arm
923	Pin of back swivel arm
924	Sliding guide
925	Regulating chip of slider
926	Right slider
927	Cover of post
928	Inner hexagonal screw M6 X 10
929	Carriage
930	Roller arm assembly
931	Washer of roller
932	Hexagonal socket bolt M8X16
933	Post assembly
934	Hexagonal socket screw M12 X 30
935	Washer 12
936	Washer 12
937	Seat weldment
938	Seat board
939	Spring washer15
940	Post carriage weldment
941	Slide board weldment
942	Left slider
943	Spring washer
944	Pin on cylinder top

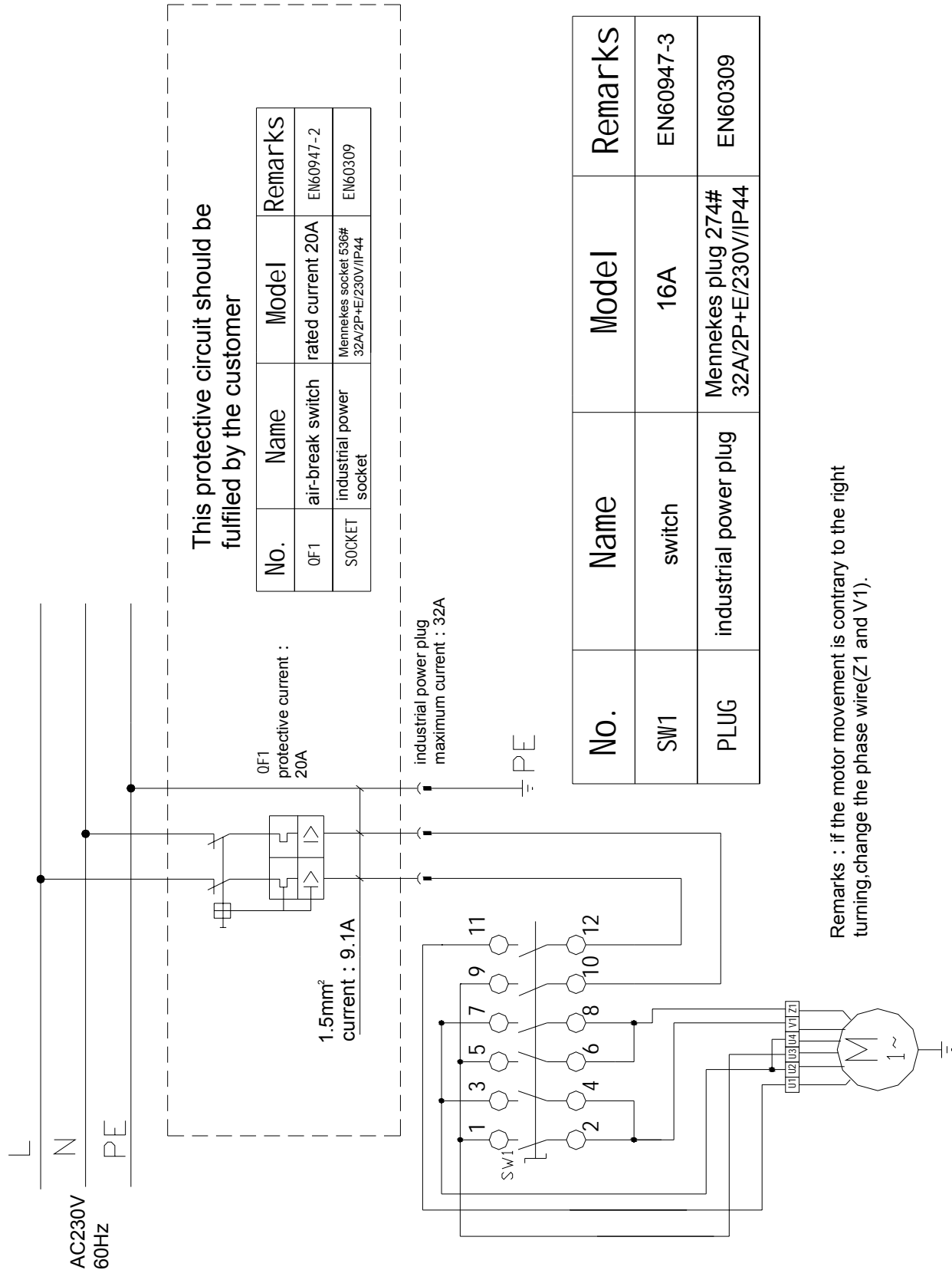
No.	Description
945	Lifting cylinder assembly
946	Cylinder hood right carriage
947	Cross recessed pan head screws
948	Pin on bottom of cylinder
949	Hexagonal nut M20
950	Pressure board of slide board hood
951	Cylinder hood left carriage
952	Cylinder hood assembly
953	Cover of cylinder hood
954	Control box
955	Disk arm assembly
956	Handle of locking rod
957	Disk
958	Disk axis
959	Handle on locking bar
960	Nut
961	Washer of swivel arm
962	Pin of fore swivel arm
963	Hexagon socket screw M8 X 16
964	Press block
965	Screw
966	Fore swivel arm assembly
967	Cone arm
968	Washer of pressure bar
969	Cone
970	Washer 8
971	Right supplementary arm assembly
1001	Roller assembly
1002	Socket screw
1003	Fore swivel arm weldment
1004	Control box
1005	Adjustable muffler (metal)
1006	Manual reversing valve
1007	Quick L end joint (metal)
1008	Handle of locking rod
1009	Socket screw
1010	Limit washer of swivel arm
1011	Back swivel arm weldment
1012	Slide hood
1013	Left slider
1014	Sliding guide
1015	Regulating chip

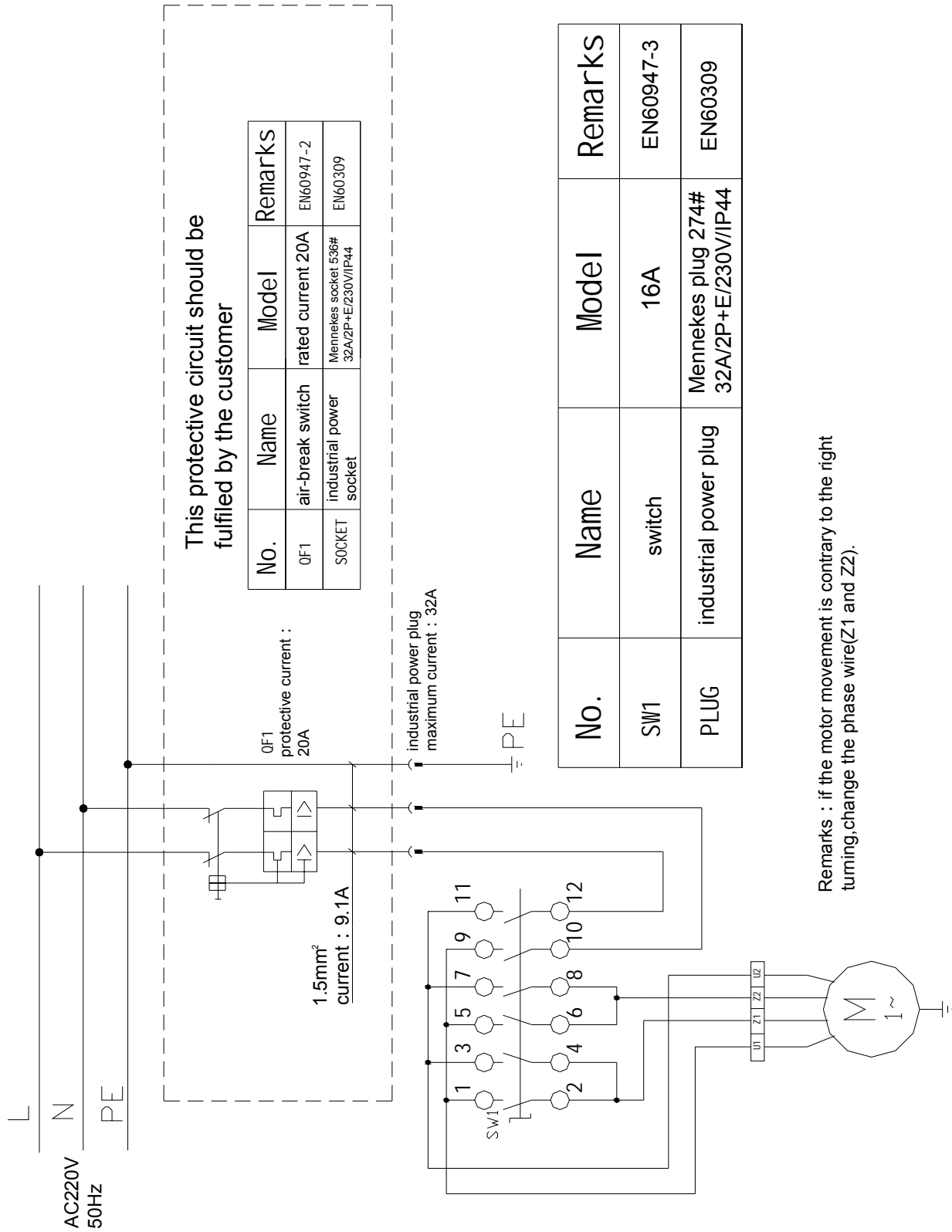
No.	Description
1016	Top cover of post
1017	Right slider
1018	Positioning block base
1019	Post
1020	Upper carriage weldment of post
1021	Post support
1022	Lower carriage weldment of post
1023	Shield ring
1024	Right carriage of cylinder hood
1025	Cylinder carriage weldment
1026	Pin of cylinder bottom
1027	Lifting cylinder assembly
1028	Left carriage of cylinder hood
1029	Cylinder hood
1030	Cone
1031	Washer of pressure bar
1032	Positioning pressure bar
1033	Upper cover of cylinder hood
1034	Pin of fore swivel arm
1035	Disk arm weldment
1036	Locking nut
1037	Handle of locking rod
1038	Disk
1039	Disk axis
1040	Limit pin of fore swivel arm
1041	Spring shield ring 30
1042	Washer of spring carriage
1043	Socket head screw
1044	Washer of lifting shaft
1045	Spring of back swivel arm
1046	Spring carriage of back swivel arm
1047	Adjustable muffler(metal)
1048	Quick three-way end joint(G type)
1049	Bush
1050	Locking sleeve body
1051	Lifting shaft
1052	Positioning sleeve
1053	Spring shield ring
1054	Locking ring
1055	Pin
1056	Pin on cylinder top
1057	Disk arm and carriage weldment

No.	Description
1058	Hexagonal locking nut
1059	Shield ring
1060	Slide
1061	Cylindrical pin
1062	Left supplementary assembly
1101	Tyre lever
1102	Inflating gun with gauge
1103	Mount/demount head unit
1104	Mount/demount head base
1105	Hexagon socket set screws with flat point M8×20
*1106	Plastic mount/demount head
1107	Flat washer φ10
1108	Hexagonal bolt M10×50
1109	Socket screw M8×25
1110	Flat washer φ8
1111	Reducing valve
1112	L elbow
1113	Lubricant box
1114	Box cover
1115	Box body
1116	Air pressure regulator, gauge and lubricator assembly
1117	L elbow
1118	T coupling

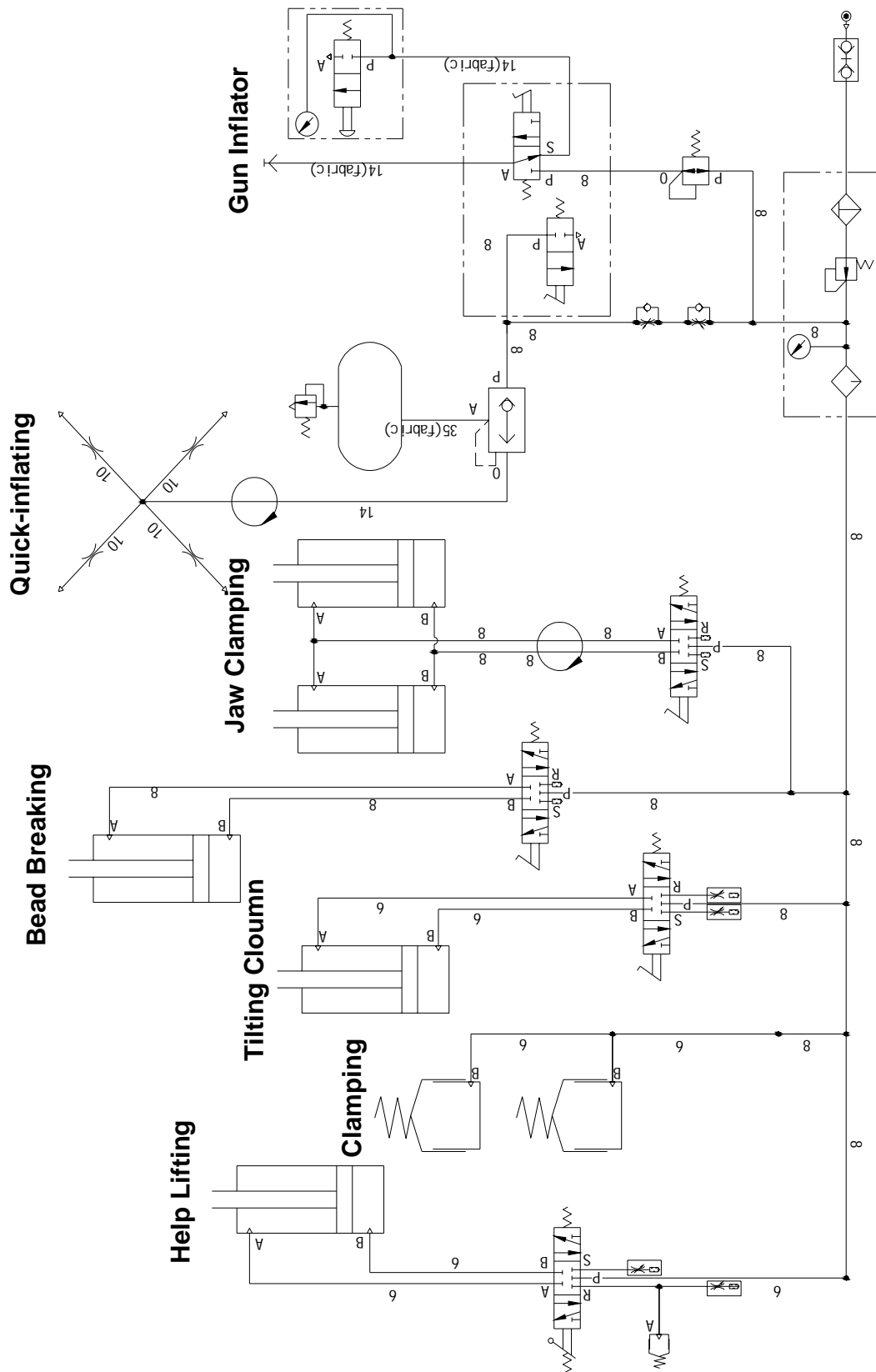
TWC Series Circuit Diagram





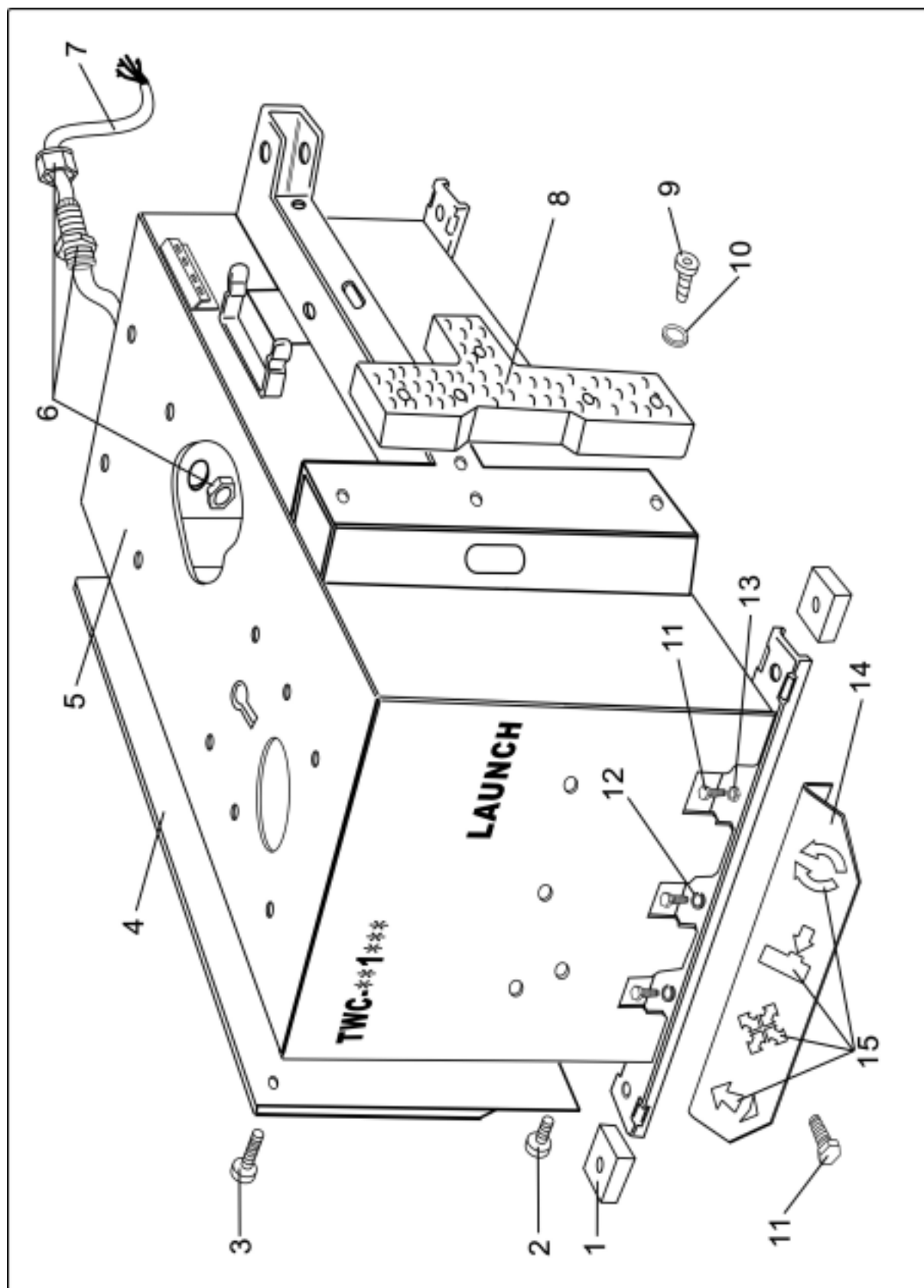


TWC Series Pneumatic Diagram

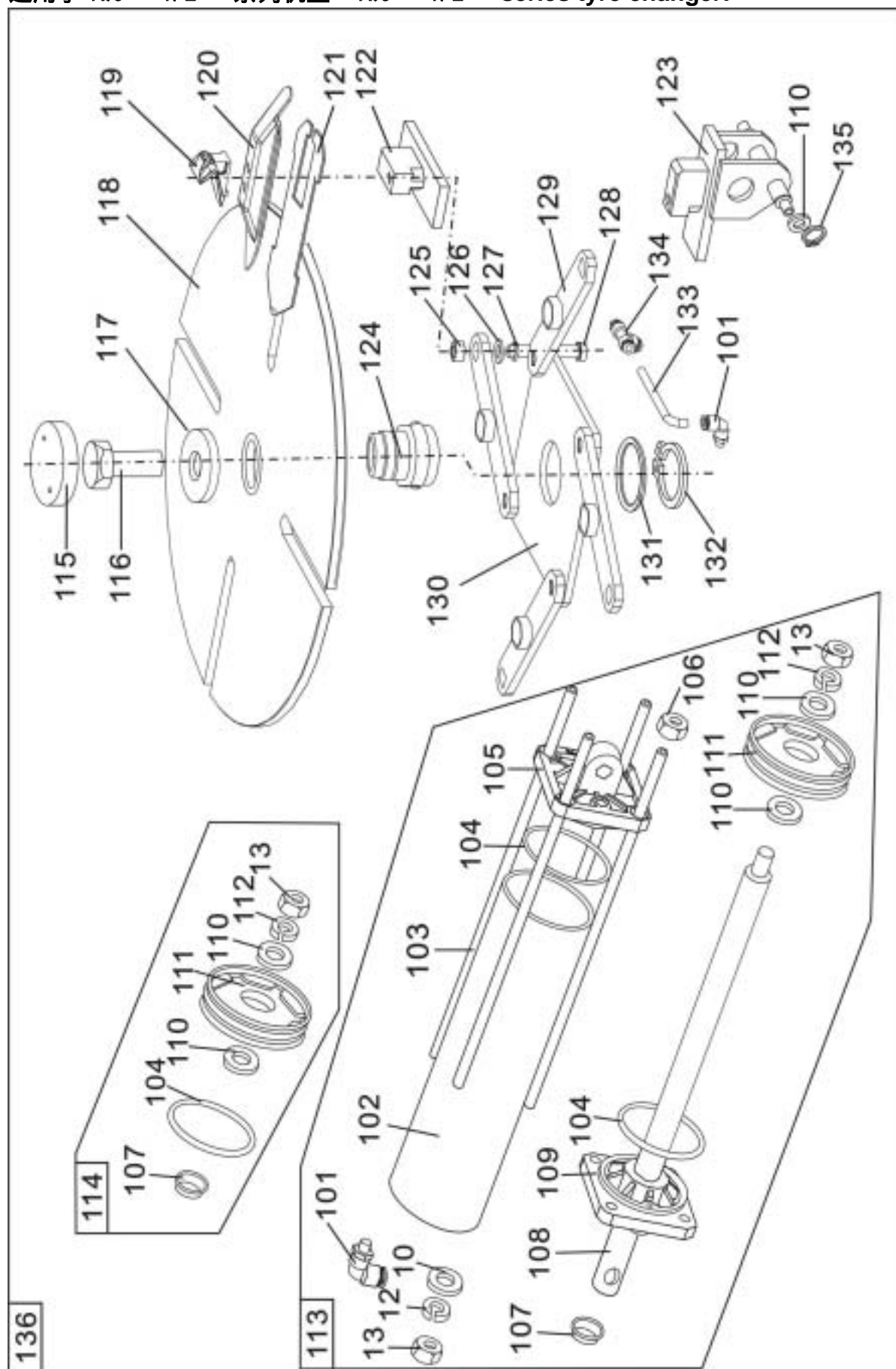


TWC 系列爆炸图 TWC Series Exploded View

适用于 TWC-**1***系列机型 TWC-**1*** series tyre changer:

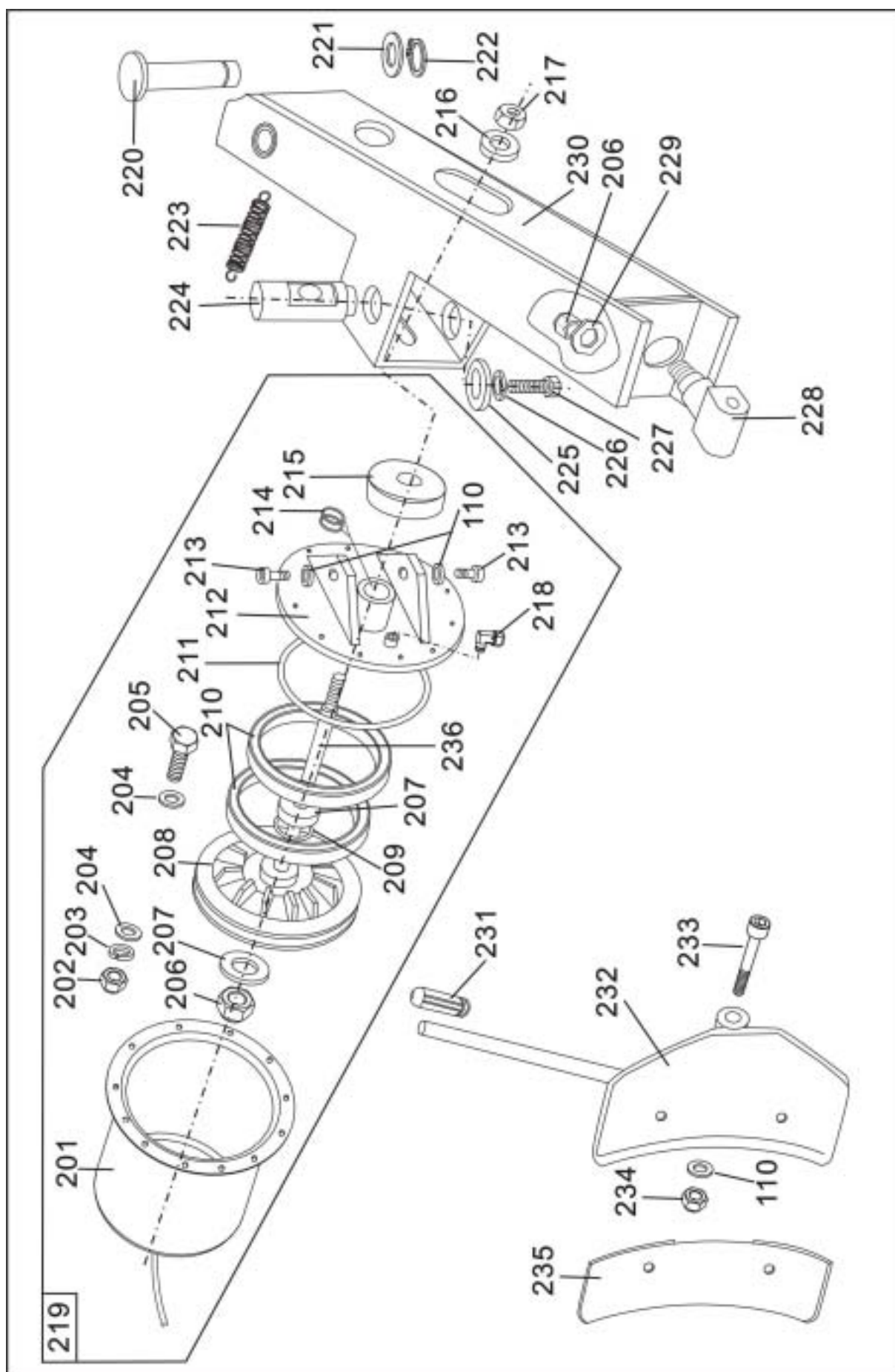


适用于 TWC-**1/2***系列机型 TWC-**1/2***series tyre changer:

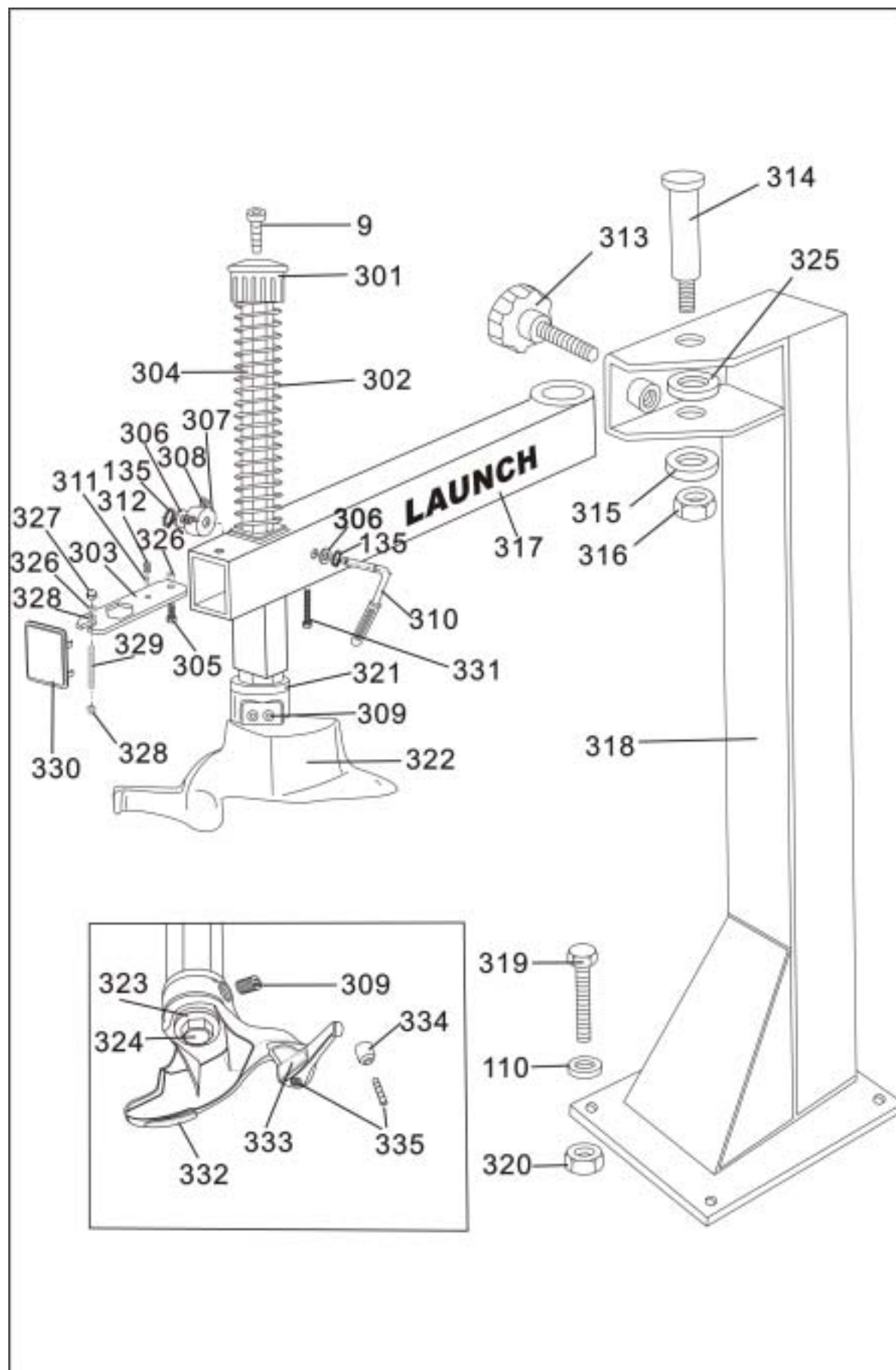


适用于 TWC-**1/2**系列机型

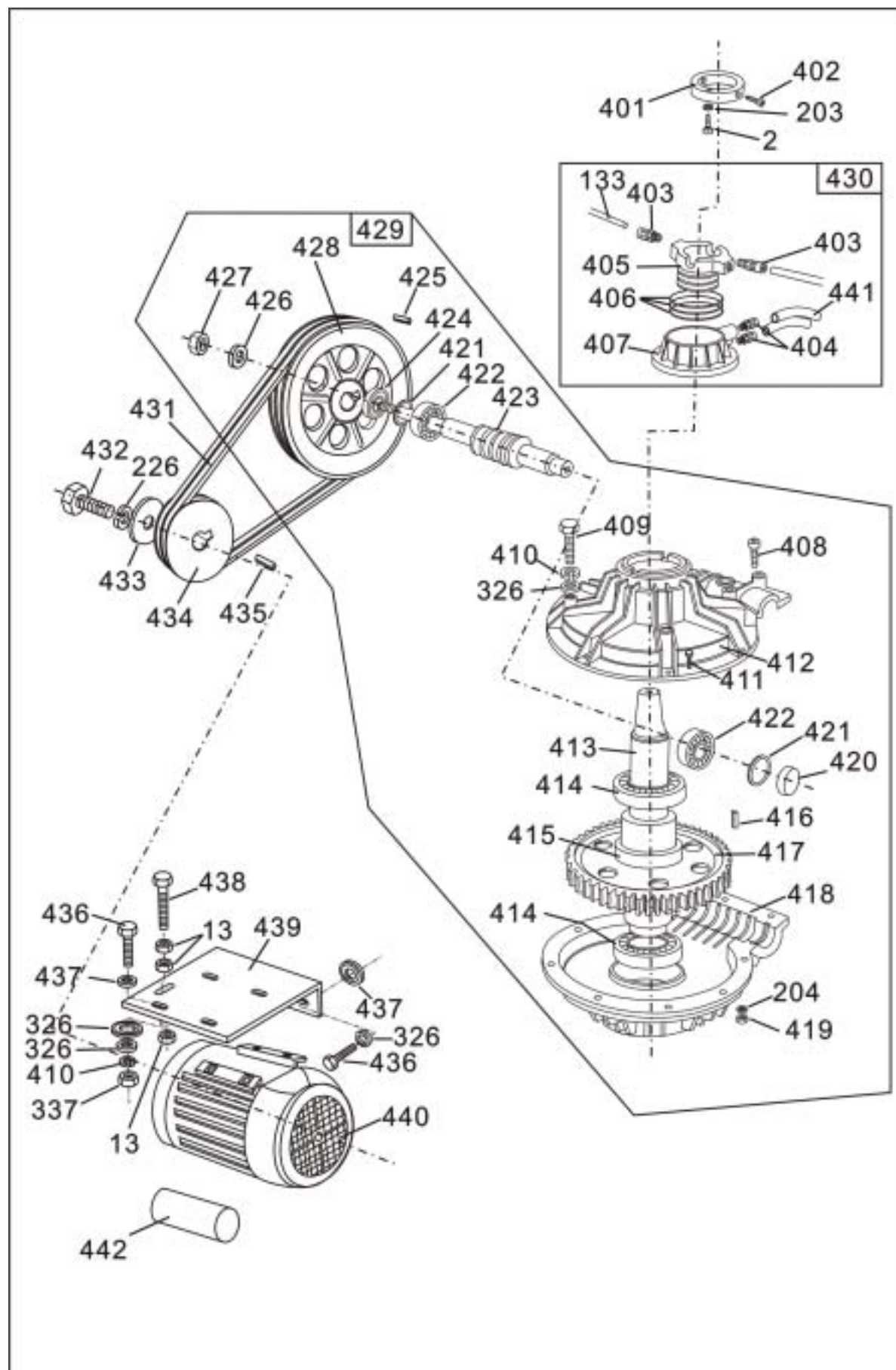
TWC-**1/2** series tyre changer:



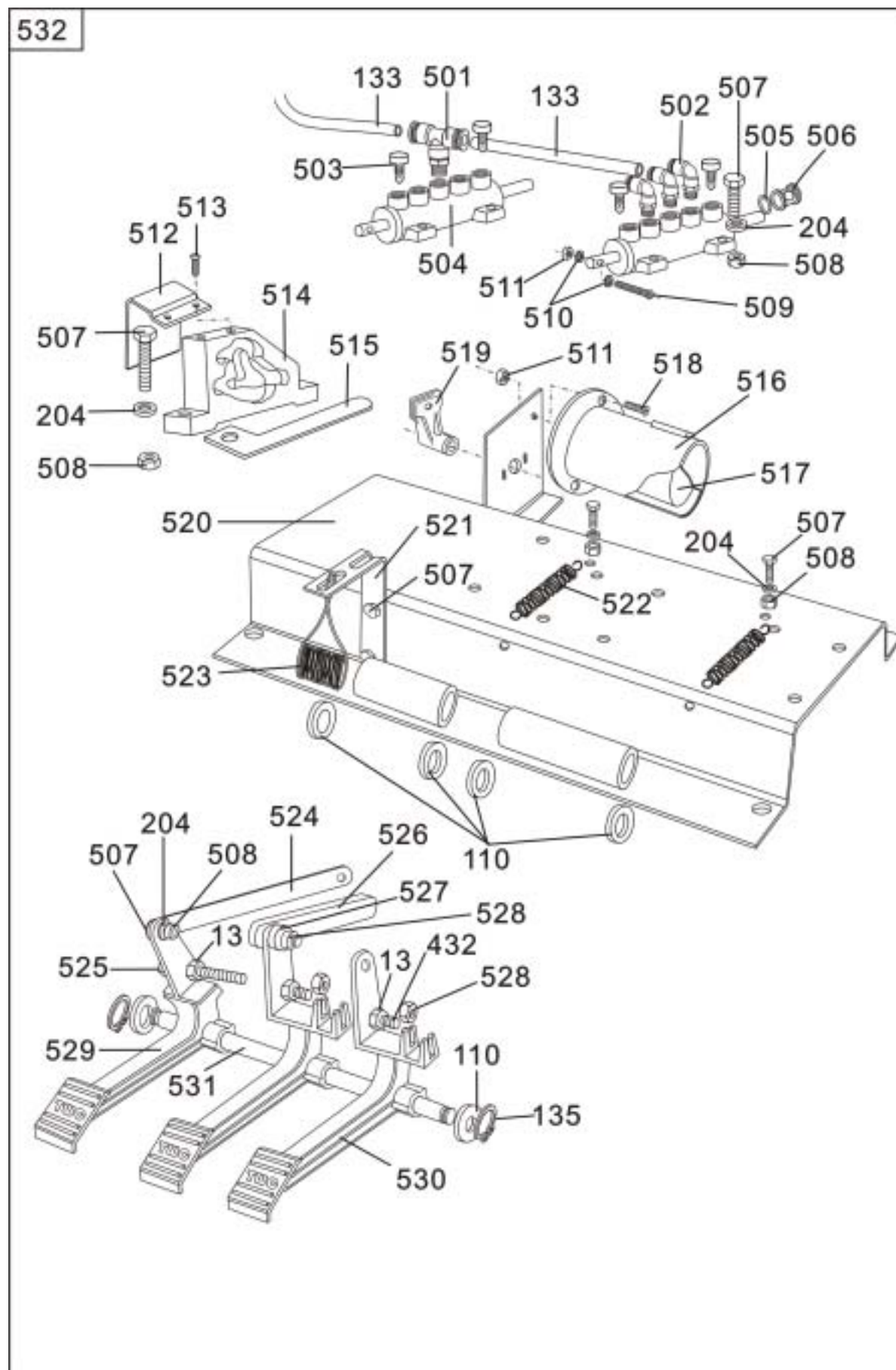
适用于 TWC-**1**系列机型 TWC-**1** series tyre changer:



适用于 TWC-**1***系列机型 TWC-**1*** series tyre changer:

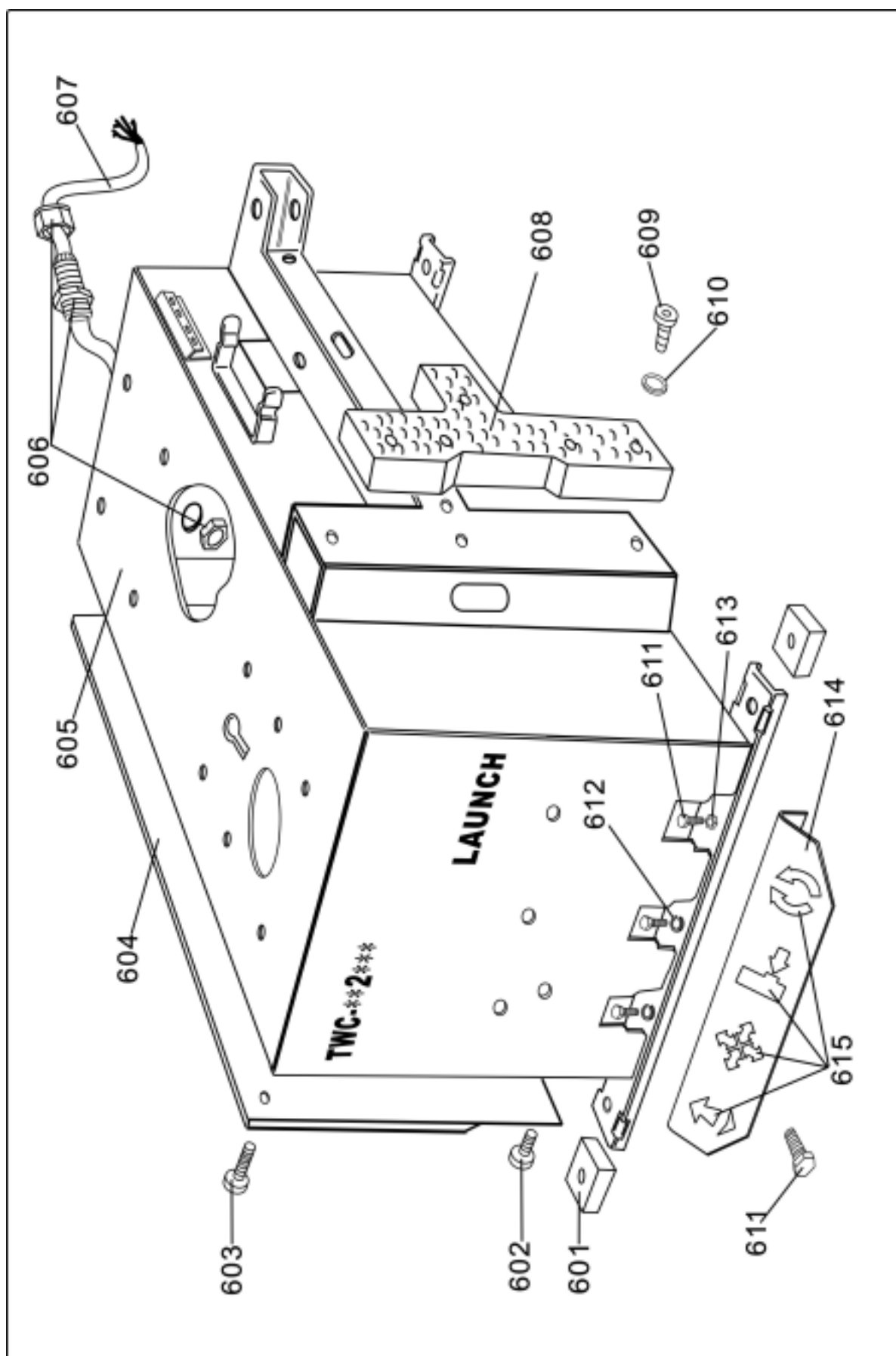


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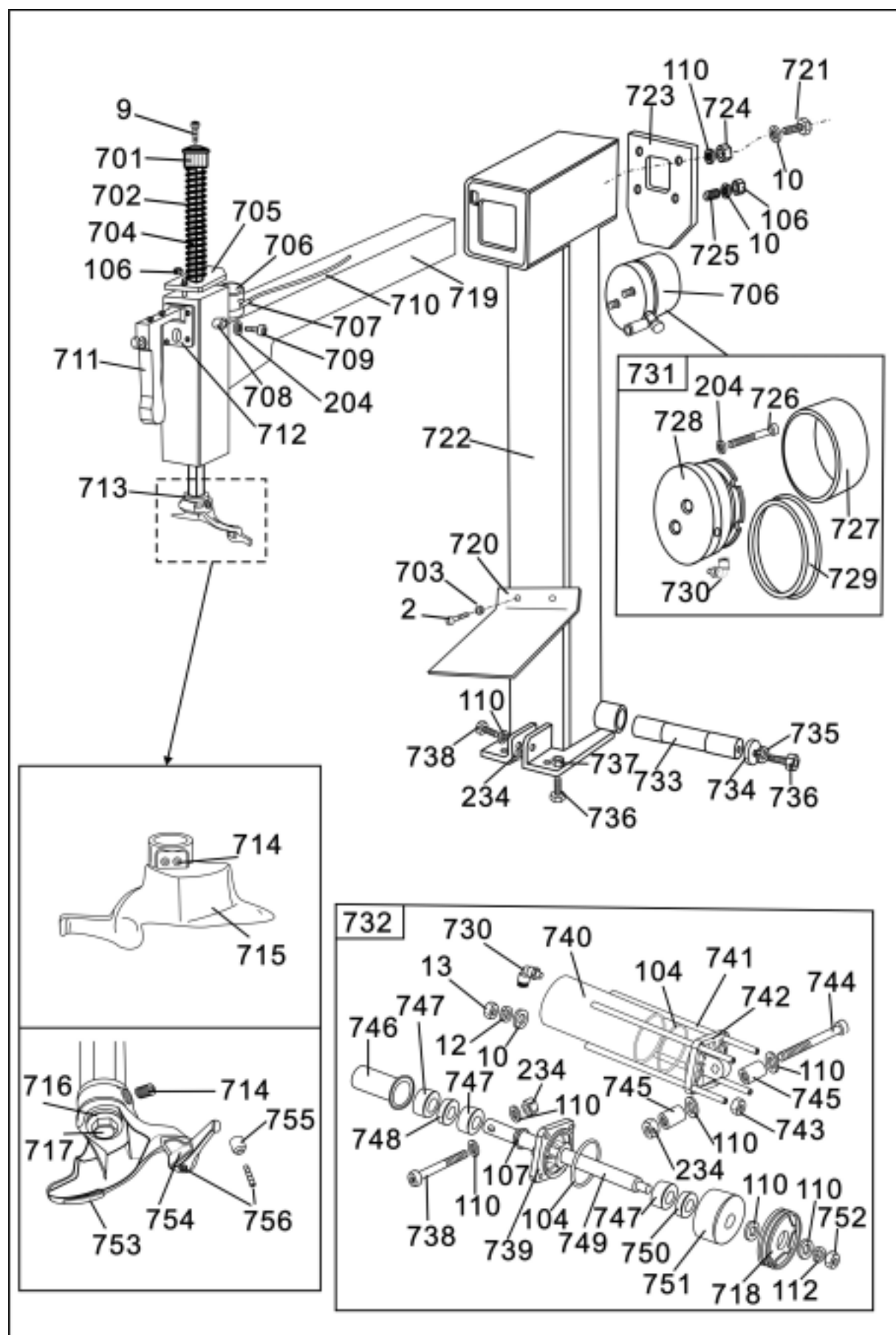


适用于 TWC-**2**系列机型

TWC-**2** series tyre changer:

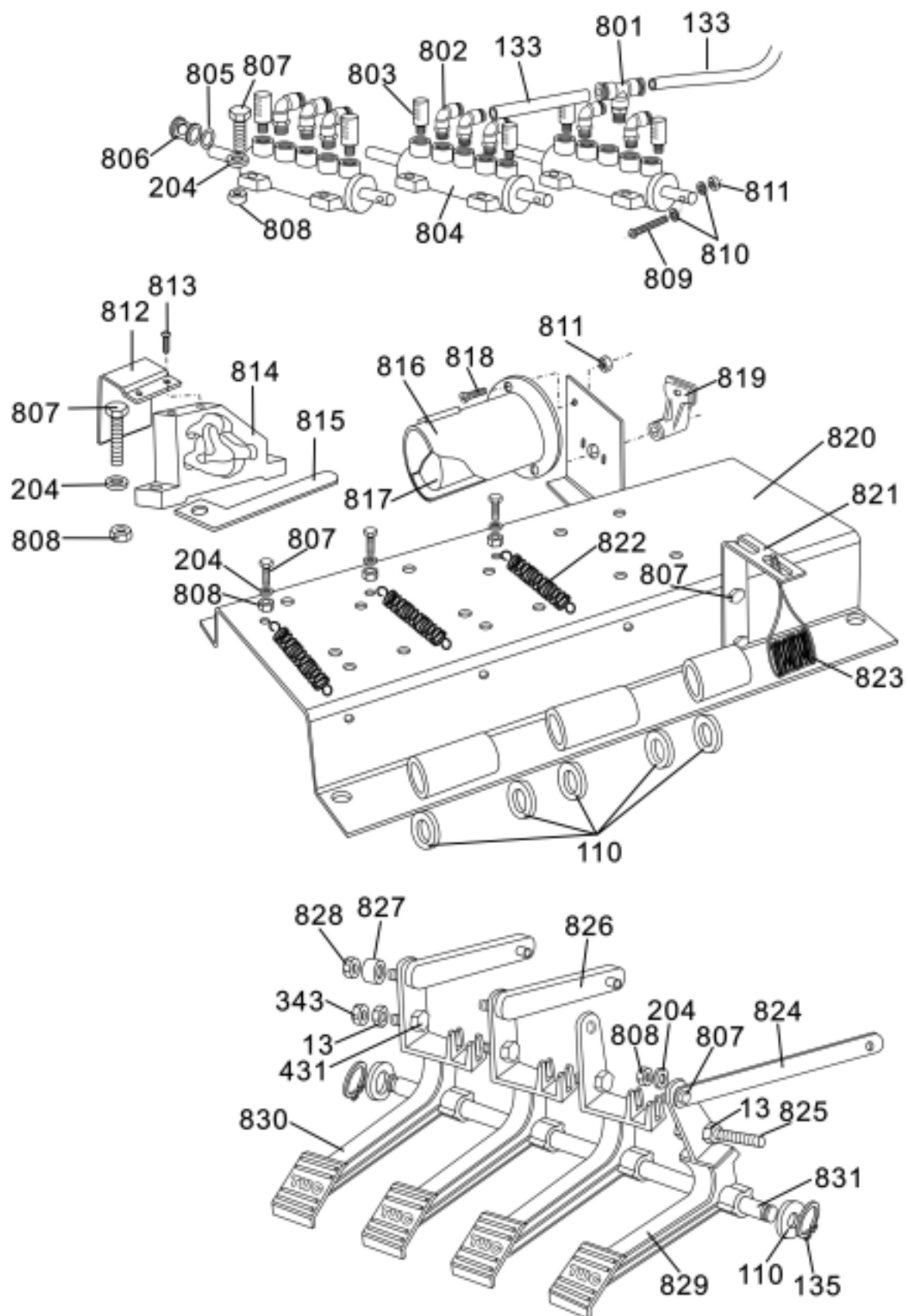


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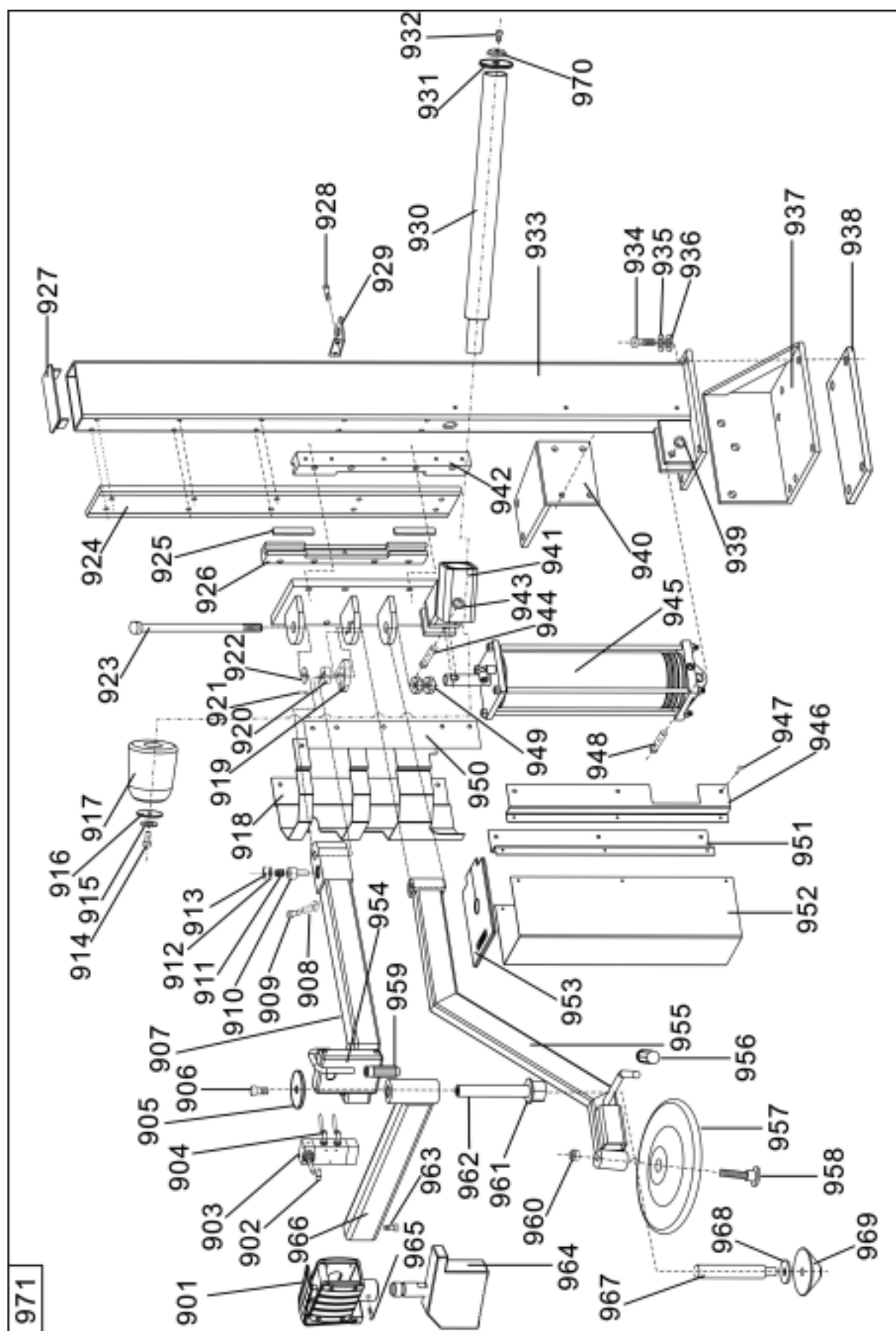


适用于 TWC-**2**系列机型 TWC-**2** series tyre changer:

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适用于 TWC-***R**系列机型 TWC-***R** series tyre changer:



适用于 TWC-***L**系列机型 TWC-***L** series tyre changer:

